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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 75, No. 10 | 535 North Dearborn Street, CHICAGO, ILL. | SEPTEMBER 4, 1920

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized on June 14, 1918.

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 75, No. 10 CHICAGO, ILLINOIS SEPTEMBER 4, 1920

THE USE OF ARSPHENAMIN IN NONSYPHILITIC DISEASES *

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It has been shown by Bronfenbrenner and Noguchi,[1] Akatsu,[2] and Akatsu and Noguchi [3] that the spirochetes, especially those parasitic to the higher animals, have many characteristics to a greater or less degree in common. This is to be noted in their morphology, motility, cultural peculiarities and methods of growth, their reaction to certain compounds especially those sometimes known as spirocheticides, and their thermal death point. While between some of the various species of spirochetes there is quite a little difference in morphology, there seems to be a sufficient number of characteristics in common to justify our placing them in a single group.

The following examples will serve to illustrate gradations in pathogenicity:

Spirochaeta plicatilis, Ehrenberg, 1833, a free living organism found in stagnant water.

Cristispira balbiana, Certes, 1882 (*Spirochaeta balbianii*), has developed parasitic properties for a cold blooded animal and is found in the crystalline style of the oyster.

Treponema dentium, Koch, 1887 (*Spirochaeta dentium*), is ordinarily a saprophytic organism found commonly in the normal human mouth. It may invade damaged tissue, but its exact rôle in such invasion is not known.

Spironema vincenti, R. Blanchard, 1906 (*Spirochaeta vincenti*), is the probable cause of local lesions on the human mucous membrane, and it invades the underlying tissues but is not believed to invade regularly the blood stream.

Spironema recurrentis, Lebert, 1874 (*Spiroschaudinnia recurrentis, Spirochaeta recurrentis*), invades the human blood stream but does not produce local lesions, it produces an acute disease of a relapsing type and is self-limiting.

Spironema morsus-muris (*Spirochaeta morsus-muris*), the organism of rat-bite fever, produces a local lesion at the point of entrance and passes through the lymph nodes and invades the blood stream and tissues. It produces an acute disease of a relapsing type and is self-limiting.

Treponema pertenue, Castellani, 1905 (*Spirochaeta pertenuis*), begins its invasion by a local lesion, invades the blood stream, then localizes and produces surface and occasionally deep lesions. It may also spread by autoinoculation. It is self-limiting. Yaws is not a congenital disease.

Treponema pallidum, Schaudinn, 1905, (*Spirochaeta pallida*), produces at first a local lesion, invades the blood stream and involves all tissues and may be transmitted to the next generation. The disease does not tend toward recovery.

In considering the effect of arsphenamin in nonsyphilitic disease, it should be remembered that the original work which led to the production of arsphenamin was done not only with *Treponema pallidum* but also with *Spironema recurrentis* of relapsing fever, *Spironema gallinarum* of a disease in fowls and *Treponema pertenue* of yaws. Ehrlich and Hata's first monograph on salvarsan is called "The Experimental Chemotherapy of Spirilloses (Syphilis, Relapsing Fever, Chicken Spirillosis and Yaws)." [4]

The favorable action of arsphenamin is to be considered as a group effect due to a chemical affinity between the drug and the vital structure of the organism. It was logical to expect that other affinities, to a greater or less degree, would be found among others of the spirochetes and that when present, they could be demonstrated therapeutically. From the beginning, therefore, the action of arsphenamin was studied as a group effect on spirochetal diseases rather than from the standpoint of syphillis alone. It has been given in almost every pathologic condition to which human flesh is heir, but for specific effect, its proper therapeutic field would seem to be limited among nonsyphilitic diseases to those caused by spirochetes and in a few instances in lesser degree to certain protozoal and bacterial infections. Favorable results had also been observed in one disease of unknown etiology, in rat-bite fever. Later, the cause of the disease was found to be a spirochete. An attempt should not be made to carry the group effect too far as there are apparently some spirochetal diseases, such as Weil's disease and yellow fever, in which arsphenamin has no beneficial effect.

* Read before the joint meeting of the Section on Pharmacology and Therapeutics and the Section on Dermatology at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent by the author on receipt of a stamped addressed envelop.

1. Bronfenbrenner and Noguchi: J. Pharmacol. & Exper. Therap. **4**: 333 (March) 1913.
2. Akatsu: Arb. a. d. k. Gsndhtsamte **25**: 494, 1907.
3. Akatsu and Noguchi: J. Exper. Med. **25**: 363 (March) 1917.
4. Ehrlich and Hata: The Experimental Chemotherapy of Spirilloses, Berlin, Julius Springer, 1910.

CONSIDERATION OF SPECIAL SPIROCHETAL DISEASES

Vincent's Angina.—Vincent's angina is a form of ulceration of the mucous membrane produced by a spirochete known as *Spironema vincenti* (possibly *Spironema buccalis,* which has for some reason become pathogenic), in connection with a fusiform bacillus. The relationship of these two organisms to the disease has not been entirely worked out, as some observers attribute the lesions to the fusiform bacillus, Tunnicliff,[5] however, gives an excellent description of a phase of the pathology, showing the zone of spirochetes in advance of the fusiform bacilli in the affected tissue. This disease is ordinarily located in the pharynx, but may occasionally involve other portions of the body.

In civil practice it is not a very common disease, it is generally susceptible to treatment with local antiseptics and rarely assumes epidemic form. In the military service, conditions are different and this disease must receive serious consideration as a cause of considerable invalidism and occasional deaths. Bouty [6] states that Vincent's angina forms from 2 to 3 per cent. of throat troubles in the French army in peace times. Recent statistics in a British hospital in France show the proportion to be as high as 23 per cent. Campbell and Dyas [7] give a very adequate description of the epidemic among the English soldiers at Bramshott, England, and detail the different types and forms of manifestations. They note that syphilitics seem to react worse to this affection. They advise that in mild cases, any of the numerous recommended applications will frequently bring about a cure, but they consider the most useful remedy to be arsenic in the form of arsphenamin or neo-arsphenamin, as a local application.

Tixer and Tobe [8] discuss the disease as found among the French soldiers. They advise various local applications, giving first place to neo-arsphenamin. They advise the intravenous administration of neo-arsphenamin when the lesions of stomatitis or angina are particularly extensive or when they are accompanied by complications. Bouty [6] describes the serious results which may follow the appearance of Vincent's angina in the military service. He recommends the use of neo-arsphenamin either in solution or powder applied locally to the affected portion. Renon and Desbouis [9] report a series of cases treated in this same manner, with very satisfactory results. Niglot and Levy [10] report six cases treated with local applications of neo-arsphenamin in powder, directly to the lesions. The results were prompt and satisfactory. Rolleston [11] describes the satisfactory results obtained from the use of a glycerin swab dipped in arsphenamin powder and applied directly to the lesion. Greene [12] describes the excellent results obtained from arsphenamin both by local applications and by intravenous injections.

Summing up the foregoing, it is probable that among local applications, the best results are obtained by the use of neo-arsphenamin applied in powder form or with a glycerin swab, or by local applications, twice daily, of 10 per cent. arsphenamin in glycerin. This form of treatment is probably more essential in military than in civil practice. Ordinarily, this treatment will suffice; but if it fails to control the disease, if the lesions have become extensive or if serious complications exist, it is advisable to give intravenous injections of neo-arsphenamin in medium-sized dosage.

Pulmonary Spirochetosis; Fetid Spirillar Bronchitis; Pulmonary Gangrene.—From a number of widely separated sources, different observers have described a form of spirochetal lung involvement. From Uganda, Taylor [13] describes a condition with pneumonic symptoms and termination by crisis. Loygue, Bonnet and Peyre [14] found many organisms in fourteen of twenty-seven grave cases of influenza and in four fatal cases. In one case the spirochetes were also found in the urine. Ribeyro [15] describes a prolonged case in Peru. A series of cases was reported from Egypt by Farrah.[16] Castellani [17] found two types of spirochetal pulmonary involvement in soldiers of the Italian army, the one lasting only several weeks and appearing as an acute bronchitis; the other as a chronic bronchopneumonia of months' or years' duration or becoming malignant with irregular fever, hemoptysis, emaciation and death. Violle [18] described a mild type with good prognosis. Nolf and Spehl [19] described a condition which they met during the war, similar to a baronchitis or a bronchopneumonia, and always characterized by a fetid breath. The causative organism is described by Nolf [20] and seems very similar to what Noguchi has termed *Treponema macrodentium.* It is also to be found in pulmonary gangrene, which may be a termination of this condition. Nolf [20] states that arsphenamin exercises a decidedly curative effect if given early. If delayed, the prognosis is not so favorable, or it may be necessary to administer repeated doses over a period of several weeks. In such a case it will be noted that, coincident with the treatment, there is a diminution of the spirochetes and a disappearance of the fetid odor of the breath.

Pyorrhea alveolaris.—Little is known of the etiology of the several conditions resulting in this disease. In some cases, arsphenamin has a decided effect (which many not be permanent,) and in others, no results are noticeable. Where improvement is shown, the spirochetes are probably responsible, either primarily or secondarily.

Relapsing Fevers.—All the reports available from those who have used arsphenamin and neo-arsphenamin in the treatment of the various types of relapsing fever have been favorable.

Among those recommending unqualifiedly the use of arsphenamin in relapsing fever are the following: Stitt,[21] Manson,[22] Robledo,[23] Jarno [24] and Iversen.[25]

Manson and Thornton [26] present a summation of the results obtained from novarsenobillon, neosalvarsan,

5. Tunnicliff: J. Infect. Dis. **25:** 132 (August) 1919.
6. Bouty: Brit. M. J. **2:** 686 (Nov. 24) 1917.
7. Campbell, A. R., and Dyas, A. D.: Epidemic Ulceromembranous Stomatitis (Vincent's Angina) Affecting Troops, J. A. M. A. **68:** 1596 (June 2) 1917.
8. Tixier and Tobe: Progrès méd. Third Series **33:** 245, 1918.
9. Renon and Desbouis: Bull. et mém. Soc. méd. d. hôp. de Par. **26:** 247, 1913.
10. Niglot and Levy: Lyon méd. **122:** 1181, 1914.
11. Rolleston: Proc. Roy. Soc. **1:** (Oct. 10) 1912.
12. Greene: Northwest Med. **4:** 50, 1914.
13. Taylor, J.: A.: Ann. Trop. Med. **8:** No. 1 (April 20) 1914.
14. Loygue, Bonnet and Peyre: Bull. et mém. Soc. méd. d. hôp. de Par. **42:** (No. 29) 1918.
15. Ribeyro: Cronica med. Lima **35:** No. 665, 1918.
16. Farrah: Lancet **2:** 608 (Oct. 4) 1919.
17. Castellani: Presse méd., 377, 1917.
18. Violle: Rev. gén. de clin. et de thérap. **32:** 144, 1918.
19. Nolf and Spehl: Arch. méd. belges **71:** 1, 1918.
20. Nolf: Arch. Int. Med. **25:** 429 (April 15) 1920.
21. Stitt: Diagnostics and Treatment of Tropical Diseases, Ed. 3, Philadelphia, P. Blakiston's Son & Co., 1919, p. 86.
22. Manson: Tropical Diseases, Ed. 6, New York, William Wood & Co., 1919, p. 243.
23. Robledo: Rev. de med. de Bogotá **37:** (Jan.-March) 1919.
24. Iversen: Russkivy Vrach **15:** 505.
25. Jarno. Wien. klin. Wchnschr. **28:** (April 22) 1915.
26. Manson and Thornton: J. Royal Army M. C. **33:** No. 2 (August) 1919; ibid. **33:** No. 3 (September) 1919.

luargol, galyl and salvarsan in the African type of fever:

1. Give arsphenamin or one of its substitutes.
2. Of these, novarsenobillon, 0.9 gm., gave most satisfactory results.
3. Give it on the first attack of fever and, failing this, wait until the first relapse, and give it then on rise of temperature.
4. Administer it always on the rise of temperature and never in the apyrexial period.
5. Should a further relapse occur, repeat the dose as before on the rise of temperature.
6. If such a course is followed, we are of the opinion that we have means at our disposal whereby an attack of relapsing fever in the African native can be cured.

From the available reports and opinions, it would seem that neo-arsphenamin is the drug of election and will serve as a specific in all types of relapsing fever.

Rat-Bite Fever.—Rat-bite fever has been known in Japan for many years, but only since Mayake's report in 1910 has attracted general attention. Cases have been reported from England, United States, Italy, East Africa and other countries.

Rat-bite fever should not be confused with streptothrix infection, which may be conveyed in the same manner. It is caused by *Spironema morsus-muris*, which is transmitted through the bite of a rat, probably as the result of abrasions or hemorrhages of the gums.

The spirochete lodges in the skin and, after a varying period of incubation, produces a local lesion at the site of injury. It then spreads through the lymphatics and involves the blood stream, the skin and nervous system. The pyrexia is of an intermittent type. Immunity develops and the disease is therefore self-limiting.

According to Stitt [27] some success in treatment seems to have followed the use of arsphenamin. Bergamini [28] reports a case which was apparently cured by the intravenous administration of arsphenamin, after the failure of all other measures. Hata [29] reports on the use of arsphenamin in eight cases of rat-bite fever. He used intravenous injections of from 0.3 to 0.6 gm. of arsphenamin in adults. He concluded that the treatment was the best available but in no way a specific for the disease. Tileston [30] reports two cases of rat-bite fever which had resisted other treatment but had responded readily to 0.3 gm. of arsphenamin administered intravenously. Delal [31] reports a case of rat-bite fever treated with one intravenous injection of 0.9 gm. of neo-arsphenamin. He felt that it hastened recovery. Surveyor [32] reports on the intravenous injection of 0.7 gm. of neo-arsphenamin in a case of rat-bite fever, with apparently good results.

It is difficult to draw final conclusions as to the comparative value of arsphenamin in this disease, until larger series of cases are reported on and more comparisons obtained with other forms of treatment as well as experimental work done with the lower animals susceptible to the disease. Meanwhile, we are justified in assuming that arsphenamin has a beneficial therapeutic effect.

Weil's Disease.—Leptospira icterohaemorrhagiae (*Spirochaeta icterohaemorrhagiae*) is a very delicate organism and measures from 4 to 9 microns in length and about 0.2 micron in width. It tapers gradually toward the finely pointed ends, either one or both of which are curved for purposes of propulsion when the organism is in motion. It is tightly wound at short and regular intervals of about 0.5 micron to each section.

Experimental work carried out by Inada and his associates indicates that it is possible for *Leptospira icterohaemorrhagiae* to penetrate the apparently uninjured skin of the guinea-pig within a period of five minutes. It may therefore be possible for the organism to be transmitted through direct contact with the excreta of an affected person. This disease is more important from the military view than from the standpoint of the civilian physician. During the year 1915, cases of infectious jaundice were observed among the English soldiers. Stokes and Ryle [33] demonstrated the organism in the blood and urine of affected soldiers. Ryle [34] found the organism in rats captured in the trenches where the cases of infectious jaundice had originated.

Inada, Ito, Hoki, Kaneko and Ito [35] performed some experimental work on guinea-pigs to determine the effect of arsphenamin in this disease. This animal is unfortunately not well adapted to such work, as it has weak resistance against arsenic. Their results were inconclusive. Stokes and Ryle [36] report on the administration of 0.3 gm. of arsphenamin given in one case without apparent effect. Stokes, Ryle and Tytler [37] state that "the treatment at present is purely symptomatic." It was later shown by Griffith [38] and Inada, Ido and others,[39] that there is a well-marked bacterial immunity, and that serum treatment instituted in the early stages, or up to the fifth or sixth day, reduces the severity and duration of the disease and has a beneficial effect on the hemorrhages and suppurative processes. We must therefore conclude for the present that arsphenamin is not in any way a specific, nor has it any marked action on the course of the disease.

Yellow Fever.—Noguchi [40] apparently has demonstrated that yellow fever is due to a spirochete whose morphology is very similar to that of *Leptospira icterohaemorrhagiae*. He has called this organism *Leptospira icteroides*.

The literature on the treatment of yellow fever with arsphenamin is scanty, and apparently little work has been done. Arago [41] reviews the South American reports and states that those who have tried it have obtained good results. He advises that the first dose be given intravenously and in as large quantities as 0.9 gm. Noguchi [42] states that arsphenamin in 1:200,000 solution will, after two to three days' contact, destroy the organism of yellow fever in vitro but that experimental work with susceptible animals has failed to demonstrate that arsphenamin has any beneficial effect on the course of the disease. While it is desirable to have further reports of the treatment of the disease in man, yet even in the absence of such, we are justified in assuming that yellow fever is one of the spirochetal diseases not favorably influenced by arsphenamin or neo-arsphenamin.

27. Stitt: Diagnostics and Treatment of Tropical Diseases, Ed. 3, Philadelphia, P. Blakiston's Son & Co., 1919, p. 407.
28. Bergamini: Policlinico (sez. prat.) **26**: 1225 (Oct. 12) 1919.
29. Hata: München. med. Wchnschr. **59**: 854, 1912.
30. Tileston, Wilder: The Etiology and Treatment of Rat-Bite Fever, J. A. M. A. **66**: 995 (April 1) 1916.
31. Delal: Practitioner **92**: 449, 1914.
32. Surveyor: Lancet **2**: 1764, 1913.
33. Stokes and Ryle: Jour. Royal Army M. C. XXVII, 1916.
34. Ryle: Lancet **1**: 142, 1917.
35. Inada, Ito, et al.: J. Exper. Med. **23**: 377, 1916.
36. Stokes and Ryle: J. Royal Army M. C. XXVI, 1916.
37. Stokes, Ryle and Tytler: Lancet **1**: 142, 1917.
38. Griffith: J. Hygiene **18**: 59 (April) 1919.
39. Inada, Ido, et al.: J. Exper. Med. **23**: 377, 1916.
40. Noguchi: J. Exper. Med. **29**: 547, 565, 585 (June) 1919; ibid. **30**: 1, 9, 13 (July) 1919; ibid. **30**: 87, 95 (Aug.) 1919.
41. Arago: Brazil-medico **33**: 201 (June 28) 1919.
42. In a personal communication to the authors, April 8, 1920.

Dengue and Pappataci.—These are two diseases which closely resemble yellow fever except that their manifestations are of a far milder type. Craig,[43] in a discussion of the three diseases, concluded that when the causal organisms were discovered they would be found to be closely related species, belonging to the same genera.

We have found no literature bearing on the treatment of these diseases with arsphenamin and neo-arsphenamin. We should expect the results to be about the same as with yellow fever. As a matter of scientific interest, reports of such treatment would be of value.

Yaws or Frambesia.—This disease is found in the tropical regions of Africa, Asia, America and Australia. It is the spirochetal disease most resembling syphilis both in its manifestations and in the characteristics of the organism. It is very doubtful whether *Treponema pertenue*, the cause of yaws, can be differentiated from *Treponema pallidum* on a basis of morphology, except perhaps after prolonged observations and measurements at the hands of an expert. The growth in the rabbit is very similar and can be differentiated from syphilis only after considerable experience. The cultural characteristics are practically the same. The disease gives a positive though weaker complement fixation to the ordinary Wassermann technic.

We have both demonstrated to our entire satisfaction the curative effect of arsphenamin in experimental yaws in the rabbit.

According to Stitt,[45] it can certainly be stated that in arsphenamin we have an absolute specific for yaws, the results which are obtained in a few days being almost miraculous when one considers the protracted normal course of the disease. The method of administration is the same as in syphilis, and results are best obtained when the arsphenamin is given early in the course of the disease. A dose of 0.4 gm. of arsphenamin usually suffices and often effects a cure. Bergen noted relapses in about 4 per cent. of cases treated with arsphenamin and neo-arsphenamin. Manson[46] states that arsphenamin, or preferably neo-arsphenamin, has a rapid and remarkable curative effect in every stage of the disease. It is the recognized specific treatment and may be given intravenously or intramuscularly. He further recommends the systematic used of arsphenamin in getting rid of the endemic. Castellani[47] says: "The most efficacious and quickest treatment is by arsphenamin or neo-arsphenamin. These drugs seem to act in frambesia more quickly and powerfully than in any other spirochetal or treponemal condition. In fact, 'therapia sterilisans magna' in Ehrlich's meaning, by a single dose, can there be realized."

There are many reports available which confirm these opinions, and no adverse testimony. It may therefore be accepted that we have in arsphenamin and neo-arsphenamin, specifics for yaws. Intravenous injections of from 0.4 to 0.6 gm. of arsphenamin should be given and repeated as the progress of the case shows necessary.

Gangosa.—Gangosa is a disease found in the West Indies, Africa, Guam, Australia and other tropical countries. Briefly speaking, it consists of an ulcerative and destructive process, having the characteristics of the granulomas, and usually involves the nasopharyngeal tissues. The end-result is frequently the complete destruction of the tissues entering into the structure of the nose with resultant cicatrization and a destruction of the pharyngeal vault. Similar ulcers have been noted on the extremities.

The reports of all observers are unanimous and show conclusively that there is no disease more amenable to treatment with arsphenamin than is gangosa. Early cases show an almost miraculous improvement within the course of twenty-four hours. There is no apparent tendency toward relapse. When there has been a considerable destruction of tissue, it is of course impossible to do more than to delay the further progress of the disease and to induce cicatrization of the affected area.

Verruca Peruana.—This is a little known disease found in South America on the west slope of the Andes. It had been supposed by some observers to be a severe type of yaws. Strong[52] concludes that verruca is not a variety of yaws but a distinct disease. the lesions are dissimilar, he was unable to find any constant organisms in the lesions, the lesion in the rabbit's testicle was not characteristic of yaws, and no spirochetes could be found in the testicle. Finally, the disease is not cured by arsphenamin.

SPIROCHETAL DISEASES AMONG THE LOWER ANIMALS

Equine Influenza.—The disease known as equine influenza is due to an unknown filtrable virus. The pneumonias which follow are undoubtedly due to a secondary infection. Arsphenamin was first used for this disease in 1911 by Rips and Kirsten in Germany and Linizky in Russia. Their reports, and those of Nevermann and Naess of Norway, are convincing as to the value of the treatment. They recommend the use of arsphenamin given intravenously, 0.01 gm. per kilogram of body weight. In a later report, Rips and Neven advise the use of neo-arsphenamin in equivalent dosage. There follows a slight rise in temperature for a few hours, and then an amelioration of symptoms which ordinarily disappear within twenty-four hours. Torgensen states that in the presence of pneumonia and extreme weakness, untoward results may occur. It would follow that treatment should be given early in the course of the disease, and on account of expense it would probably be limited in its use to the treatment of valuable animals.

Spirochetosis of Fowls.—A very exhaustive report on the spirochetosis of fowls found in the Sudan, South American and possibly the United States deals with the effect of arphenamin on *Spironema gallinarum* (*Spiroschaudinnia marchouxi*). The fowls were cured in a number of cases, though some of them proved somewhat resistant. Repeated doses were occasionally found necessary, and young fowls did not stand the arsphenamin well. The drug was mixed in olive oil and injected into the tissues.

PROTOZOAL DISEASES

A considerable amount of work has been done in the treatment of protozoal diseases with arsphenamin and with some claims of favorable results, though not so favorable nor so much in accord as with certain of the spirochetal diseases.

43. Craig: New York M. J. **93**: 360, 1911.
45. Stitt: Diagnostics and Treatment of Tropical Diseases, Ed. 3, Philadelphia, P. Blakiston's Son & Co., 1919, p. 349.
46. Manson: Tropical Diseases, Ed. 6, New York, William Wood & Co., 1919, p. 668.
47. Castellani: Manual of Tropical Diseases, 1913.
52. Strong: Harvard School of Tropical Medicine, Report of First Expedition to South America, Cambridge, 1915.

Malaria.—The various types of malaria have been reported on from many sources, but the results are not on the whole so favorable as with quinin. Stephens, Yorke and Blacklock [53] found that in simple tertian malaria, single intravenous injections of neo-arsphenamin in doses of from 0.45 to 0.9 gm. stop the paroxysms and eliminate the parasites from the cutaneous blood, as a rule within one day. Parasitic relapses occur, on an average, in twenty-one days. The curative effect of a single injection is of no permanent value. Stott [54] found that arsphenamin had apparently some specific action on the asexual forms of malarial parasites, but no influence in the prevention of the evolution of the sexual cycle. It does not produce the immediate and progressive beneficial effect in malarial diseases which commonly follows the administration of quinin. He concludes that it may be of some value as an adjuvant. Neff [55] reports on the use of arsphenamin in five cases of tertian malaria which had resisted the administration of quinin. Results seemed to indicate a cure in all cases for periods of from four to eight weeks during which they were under observation. Reed [56] and Goldthwait [57] each report a case of malaria resistant to quinin, which yielded to a single intravenous injection of arsphenamin. Manson [58] states that recent experiments show that although arsphenamin and neo-arsphenamin have some effect on the quartan and tertian parasites, they have but little, if any, on the estivo-autumnal. Kopanaris,[59] having seen some benefits in tertian malaria in man from the use of arsphenamin, made a very thorough study of the effect on proteosoma which is the similar organism causing bird malaria. He found that infected birds treated with arsphenamin in both large and small doses, showed far greater intensity and continuance of infection than the control birds which had not received arsphenamin. He also found that treatment with arsphenamin lowered the resistance of normal birds to subsequent infection. On the other hand, the usual effect was obtained from the administration of quinin in this disease. J. W. W. Stephens [60] obtained no curative results whatever from the use of neo-arsphenamin in malignant tertian malaria. The addition of arsenic to quinin is no more effective than quinin alone. Bohme [61] recommends the combined use of quinin and neo-arsphenamin. Worner [62] considers neo-arsphenamin useful for general treatment and for improving the state of the blood but of no value for gametocyte carriers.

The mass of literature on the treatment of malaria is so great, and the recommendations of arsphenamin and neo-arsphenamin when made are so half-hearted, that we must conclude, for the present, that these drugs have a limited influence on the course of the disease.

Trypanosomiasis.—The condition in man due to infection with *Trypanosoma rhodesiense,* or the less severe infection due to *T. gambieuse,* as well as other animal trypanosome infections, have been studied in their natural host as well as experimentally. On account of the close relationship of these organisms, the material will be grouped under this one heading.

Sleeping Sickness: Broden and Rodhain [63] report good results from the Congo, following the use of arsphenamin, but only when examination of the spinal fluid indicates no involvement of the nervous system. Atoxyl is probably a more efficacious form of medication, and it is possible that any good effects may be due only to the contained arsenic. Lurz [64] makes a further report on the use of arsphenamin in sleeping sickness. All patients having over 10 cells per cubic millimeter were rejected. Patients weighing less than 50 kg. were given 0.3 gm., and those weighing over 50 kg. were given 0.4 gm, every other day for two weeks. The results were unsatisfactory. Branden [65] reported a favorable effect in human trypanosomiasis, but believes that not all trypanosomes are affected alike. Some attempt has been made to use a modified form of Swift-Ellis treatment in those showing nervous involvement, but no conclusive results have been reported.

Surra: This trypanosome infection, due to *Trypanosoma evansi,* is a fatal disease of horses, camels and cattle, and is found in southern Asia, Malaya and the Philippines. Arsphenamin seems to have little favorable effect, though Strong [66] reports some good results from the use of arsenophenylglycin given intravenously.

Dourine: Dourine, or mal du coit, is caused by *Trypanosoma equiperdum.* It affects stallions, brood mares and donkeys, and is found in South Europe, North Africa, Chile, and has been imported into the United States. Some good reports have been made of the use of arsphenamin in this disease, though they are not yet conclusive. The experimental study of Schamberg, Kolmer and Raiziss [67] is, however, very convincing as to the favorable effect of arsphenamin on the organism in rats. They conclude that the trypanosomes react in a large measure to the influence of drugs as do the spirochetes.

Mal de Caderas: Mal de caderas is caused by *Trypanosoma equinum,* and is found in horses in Panama and Colombia. Teague and H. C. Clark showed that arsphenamin had a favorable effect in this disease.

Nagana: *Trypanosoma brucei* is the cause of nagana, which is a fatal disease of horses and cattle and is found in Africa. It is shown [68] that arsphenamin causes a temporary decrease in the number of organisms in infected gerbils, and will delay death for several days. Schilling recommends arsphenamin for horses affected with *Tr. brucei,* and advises the use of 0.05 gm. per kilogram of body weight.

From the foregoing it would seem that arsphenamin may have a favorable effect on some of the trypanosomes, but that it may vary in different species. Further investigation is necessary before definite conclusions can be reached.

Leishmaniasis.—This term includes kala azar, or tropical splenomegaly, oriental sore, and espundia of South America. Stitt [50] states that arsphenamin has been tried in leishmania infection but without much success. In a study of kala azar [68] it is stated that on

53. Stephens, Yorke and Blacklock: Ann. Trop. Med. **12:** 197, 201, 211, 217 (Oct. 13) 1918.
54. Stott: Indian Med. Gaz. **50** (July 15) 1915.
55. Neff, F. C.: Report of Five Cases of Tertian Malaria Treated with Diarsenol Intravenously J. A. M. A. **67:** 1058 (Oct. 7) 1916.
56. Reed: U. S. Nav. M. Bull. **7:** 1913.
57. Goldthwait: Mil. Surg. **31:** 1912.
58. Manson: Tropical Diseases, Ed. 6, New York, William Wood & Co., 1919, p. 129.
59. Kopanaris: Archiv f. Schiffs- u. Tropen-Hyg. **15:** 566, 1911.
60. Stephens, J. W. W.: Ann. Trop. Med. **13:** 63, 69, 73, 75 (May 12) 1919.
61. Bohme: Med. Klin. **15:** 458 (May 11) 1919.
62. Worner: Med. Klin. **15:** No. 25, 1919.
63. Broden and Rodhain, in Manson Tropical Diseases, Ed. 6, New York, William Wood & Co., p. 179
64. Lurz: Archiv. f. Schiffs. u. Tropen-Hyg. **23:** 308 (July) 1919.
65. Branden: Arch. f. Schiffs- u. Tropen-Hyg. **17:** 845.
66. Strong: Philippine J. Sc. **5:** (Feb.) 1910.
67. Schamberg, J. F.; Kolmer, J. A., and Raiziss, G. W.: Summary of Chemotherapeutic Studies in Experimental Trypanosomiasis, J. A. M. A. **65:** 2142 (Dec. 18) 1915.
68. Fourth Report of the Wellcome Research Laboratory, London, Baillière, Tindall and Cox, 1911.

the whole the effect of arsphenamin has been favorable, but that nothing in the nature of a curative effect was obtained. These diseases also require further study before final conclusions can be reached, though some marked favorable action may eventually be demonstrated.

COMPLICATIONS OF SYPHILIS

Pneumonia, Secondary Infections, Anemias, etc., in Syphilitics.—Head and Seabloom [69] call attention to the fact, noted by a number of other observers, that certain acute diseases or disturbances of metabolism will so derange the protective mechanism of the body that an old infection apparently dormant will become reactivated. They have noticed that syphilitics having pneumonia are liable to show delayed resolution for weeks or months at a time. They cite instances showing very prompt resolution following the administration of arsphenamin. This should be borne in mind in the diagnosis and treatment of the various conditions, both medical and surgical, including postoperative, not readily amenable to treatment, which take place in syphilitics.

OTHER DISEASES

Arsphenamin and neo-arsphenamin have been administered by many investigators in many other diseases, including anthrax, glanders, sporotrichosis, leprosy, Malta fever, influenza, meningitis, typhus fever, pellagra, plague, rabies, various pyogenic affections and pulmonary tuberculosis, but with the following exceptions, the reports have not been sufficiently encouraging to warrant citation and analysis.[70]

Chronic Pemphigus.—There has been considerable written of the use of arsphenamin in chronic pemphigus, and it would appear that in a number of cases its administration has been followed by a beneficial effect. The question of the differentiation of this disease from bullous dermatitis herpetiformis should, however, be considered as well as the occasional tendency toward spontaneous involution. It would appear doubtful whether results are obtained in the acute septic type. This form of treatment has been discussed by R. L. Sutton,[71] Eschweiler,[72] J. de Azua,[73] Merz,[74] Lindemann,[75] A. P. Bergsonoff,[76] Stumpke,[77] Frieboes,[78] and Wolfe.[79]

Sprue.—We were unable to find any information on which to base a favorable opinion of the use of arsphenamin in sprue.

Tuberculids.—It seems established that good effects have been obtained by a number of authorities in the treatment of tuberculids with arsphenamin. Articles have been presented by John H. Stokes,[80] Benoit,[81] A. Zanck and E. Pelbois,[82] Morin and Julia,[83] and Ravaut.[84] The possibility of a generalized involvement after such treatment has been suggested.

Amebic Dysentery.—As is to be expected, there are a number of reports on the use of arsphenamin in this disease, and some of them appear favorable. Winn [85] treated twelve cases of intestinal amebiasis, and states that the amebia disappeared from the stools in from twenty-four to seventy-two hours, and that the stools were changed materially in character and reduced in number. Willets [86] describes the treatment of 132 cases of dysenteric and nondysenteric ameba carriers. In the nondysenteric cases he found that neo-arsphenamin freed the bowel of endameba in 100 per cent. of cases, ipecac in 70.6 per cent, and emetin in 36.8 per cent. of cases. The treatment of seventeen cases of amebic dysentery is reported on by Gunn.[87] He concludes that a radical cure is difficult to obtain either with emetin or arsphenamin used separately but that, if combined, radical cures may be expected in a large number of cases, especially if the arsphenamin be given while the patient is under the influence of the emetin. This form of treatment is also recommended by Ravaut and Krolinitzky.[88] Milian [89] reports the rapid cure of amebic dysentery by arsphenamin. Others who have reported favorably are Valencia,[90] Chalmers and Archibald,[91] Ravaut and Charpin [92] and Mink.[93]

Anthrax.—Of all bacterial diseases treated with arsphenamin, the most favorable results have been reported in anthrax. Case reports have been published by Bettman and Laubenheimer,[94] Becker,[95] and Mokrzecki.[96] Reports of cultural and experimental studies have been made by Bettman and Laubenheimer,[94] Schuster [97] and Roos.[98] The number of cases treated is too small for our purposes, though the reports are most encouraging. It seems to have been demonstrated beyond question that with rabbits, the immediate injection of 0.04 gm. of arsphenamin per kilogram of body weight will save the life of the animal from a lethal injection of anthrax. With guinea-pigs, practically the same results can be obtained. In the latter animal, if the injection is delayed for six hours or until some edema is present at the site of injection, death will be prevented in some instances and delayed in others. If delayed for from sixteen to twenty-two hours, death of the animals could only be delayed. Becker [95] believes that arsphenamin acts as an internal disinfectant for both anthrax and glanders. Roos [98] demonstrated that arsphenamin has a very decided effect on anthrax in vitro, compared with certain bacteria, as paratyphoid and the cocci, also that the serum of treated animals is strongly bactericidal to anthrax in culture. He also believes that the action is due to a deposition in the substances of the organisms, as with *Treponema pallidum*.

While recognizing that anthrax acts somewhat differently on man than on the animals mentioned in the foregoing, it would seem established that arsphenamin does have a prophylactic and curative effect on anthrax, and that it should be given in medium-sized doses intravenously, as early as possible in the course of the disease.

69. Head, G. D., and Seabloom, J. L.: Arsphenamin in Pneumonia with Delayed Resolution in Syphilitic Soldiers, J. A. M. A. **73**: 1344 (Nov. 1) 1919.
70. In order that this paper may be more complete, the paragraphs on pemphigus, sprue, tuberculids and amebic dysentery have been added since the paper was read.
71. Sutton: Boston M. & S. J. **164**: 336, 1911.
72. Eschweiler: Dermat. Centralbl. **17**: 262, 1913.
73. de Azua: Rev. clin. de Madrid **8**: 218, 1912.
74. Merz: Deutsche med. Wchnschr. **37**: 2231, 1911.
75. Lindemann: Inaugural Dissertation, Jena, 1912.
76. Bergsonoff: Dermatologica **2**: 818, 1913.
77. Stumpke: Berlin. klin. Wchschr. **44**: 1267, 1912.
78. Frieboes: Deutsche med. Wchnschr. **39**: 1916, 1913.
79. Wolfe: Deutsche med. Wchnschr. **37**: 527, 1911.
80. Stokes: Am. J. M. Sc. **157**: 522, 1919; Arch. Dermat. & Syph. **38**: 573 (May) 1920.
81. Benoit: Union méd. du Canada **45**: 111, 1916.
82. Zanck and Pelbois: Ann. de dermat. et syph. **5**: 65, 1914.
83. Morin and Julia: Ann. de dermat. et syph. **5**: 89, 1914.
84. Ravaut: Ann. de dermat. et syph. **4**: 479, 1913; Bull. Soc. franç. de dermat. et syph. **24**: 308, 1913.
85. Winn: Proc. Canal Zone M. Assn. **5**: pt. 1, 7, 1912.
86. Willets: Philippine J. Sc. Section B, **9**: 93, 1914.
87. Gunn: Calif. State J. M. **16**: 240, 1918.
88. Ravaut and Krolinitzky: Bull. Soc. path. exot. **9**: 510, 1916.
89. Milian: Bull. et mém. Soc. méd. d. hôp. de Par. **39**: 950, 1915.
90. Valencia: Repert. de med. y cirurg. **7**: 260, 1916.
91. Chalmers and Archibald: J. Trop. Med. **18**: 181, 1915.
92. Ravaut and Charpin: Paris méd. **22**: 125, 1919.
93. Mink: U. S. Nav. M. Bull. **8**: 653, 1914.
94. Bettman and Laubenheimer: Deutsche med. Wchnschr. **38**: (Feb. 22) 1912.
95. Becker: Ehrlich Festschrift, Jena, G. Fischer, 1914.
96. Mokrzecki: München. med. Wchnschr. **60**: 1089, 1913.
97. Schuster, in Ehrlich: Abhandlungen über Salvarsan **3**: 378.
98. Roos: Ztschr. f. Immunitätsforsch. u. exper. Therap., Orig. **15**: 487, 1912.

Arsphenamin has been recommended as an alterative in various conditions, but under ordinary circumstances has little advantage over liquor potassii arsenitis.

SUMMARY

For practical therapeutic purposes, the beneficial effects of arsphenamin and neo-arsphenamin are most apparent in a limited number of spirochetal diseases.

They act as a specific in Vincent's angina, relapsing fever, yaws, gangosa and pulmonary spirochetosis (if given early) in man, and in equine influenza.

A therapeutic effect is noted in rat-bite disease, in certain dental conditions and in fowl spirochetosis. The complete measure of the effect in the latter condition has not yet been established.

No apparent benefit has been found in such other spirochetal diseases as Weil's disease and yellow fever.

Good results have been obtained in syphilitics, in a number of nonsyphilitic conditions, which are influenced adversely by that disease.

Their use has been recommended in conditions in which arsenic is indicated. In such case the effect is alterative rather than specific, and ordinarily there is no special advantage over liquor potassii arsenitis.

There is a limited effect on certain protozoal diseases, as malaria (tertian and quotidian), some of the trypanosomiases and leishmaniasis. It is possible, however, that this effect may be nonspecific.

With the exception of anthrax, and possibly glanders, few favorable results are reported in bacterial diseases.

Except in Vincent's angina, arsphenamin and neo-arsphenamin should be administered intravenously in medium-sized dosage. Two or three injections usually accomplish the desired purpose, except in pulmonary spirochetosis, which may require a series of injections. In diseases showing liver involvement, it has been recommended that neo-arsphenamin be given on account of its supposed lesser degree of toxicity.

OPPORTUNITIES AND RESPONSIBILITIES OF THE PHYSICIAN OF TODAY

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The last decade has seen great changes in our conceptions of life and its social reactions. Intercourse between nations, business and professional relations, individual and community obligations have all undergone radical changes and are still in a condition of flux. None knows what the morrow will bring forth. Each is living a day at a time. The problems of the present demand our time and attention. The needs of the present hour apparently outweigh all other considerations, and we are bending our efforts to maintain a seeming orderliness and not permit the established customs of thought and action to be carried beyond our grasp and control by the rushing tide of feverish impatience to set up a new social and economic order.

In no occupation or profession is this change becoming more apparent than among physicians and their related professional and social activities. Struggle as we will to maintain the noble conception of professional ethics and community relations, indications are not lacking that new opportunities are bringing into play new responsibilities, and we must so order our professional lives as to meet these opportunities and responsibilities with a determination to make them serve the best interests of the individual and the community.

Medical practice of the past has been largely that of individualistic endeavor without consideration of community needs. True, all physicians have given without stint of their time and knowledge to social work by serving the needy without thought of monetary return. But the solution of the problem of how best to serve the public while still serving their own interests only recently has been seriously considered.

Until recent times the individual, although realizing his community relations, has followed his desires, his thoughts and his actions without considering their effect on the public. Now we are coming to think in the aggregate, and so to conduct our individual lives that our actions may be reflected in community betterment.

THE MOVEMENT FOR REFORM

What are the indications on which the foregoing assertions are based? Strange to say, these indications are more largely in evidence in the thoughts and actions of the laity than they are in the medical profession. In times of need the profession has been aroused to forestall hasty action by legislatures and other bodies in placing mandatory legislation on the statute books that was inimical to the interests of physicians. I refer particularly to health insurance and similar schemes which their proponents have attempted to force on the community without due consideration of all the factors involved. There are individuals, societies and cults who feel it their duty to impose restrictions on the actions and conduct of the medical profession, and who feel that by so doing they are rendering some great additional service to the community. In recent years almost every legislative session in some states has been besieged by these organizations in order to obtain the passage of their so-called "reform" measures. They work on the sympathy of the public by insisting that such opposition as is voiced by the medical profession is due entirely to selfish and sordid motives. Unless we are constantly alert to such attempts to restrict our freedom of action and saddle on us new and untried schemes of social endeavor, we shall sooner or later find some disagreeable legislation on the statute books.

We hear much these days about health centers, prenatal care, infant welfare, child hygiene, physical education in our schools, diagonistic clinics, and so on through a long list of activities having for their object the betterment of the health of the individual and the community. Have we ever stopped to analyze the forces behind these movements which to a large extent must depend on the cooperation of the medical profession to be carried to a successful conclusion? If we make such an analysis we find them in many cases initiated, stimulated and directed by others than medical men and women. The physician is asked to execute the work, not to direct it. I would not belittle the motives or the personnel behind these most worthy movements, but I fear for the successful realization of their hopes without the counsel and advice that only our profession can give. Sooner or later the physician will be called into the work; but if he has had no part in formulating the policy of the endeavor, can he be held responsible for its unsatisfactory end-

ing? Nevertheless, in the majority of cases he will be called on to bear the major responsibility of failure.

I feel that the time has come when the physician must assert himself in these movements and, laying aside his mantle of individualism, prepare to render his share of service in these forward-looking changes which are going on all about us. The state, which is composed of communities, has the right to expect certain services from physicians owing to the fact that they receive special distinction in being licensed by the state to practice their profession. The distinction is further emphasized by their exemption from certain civic duties demanded of others. It may be said in refutation that they are already giving largely of their services to the state in the care of the indigent and needy sick. This is true, but only half true. They are applying remedial measures, but how about preventive measures? Are they studying the case to find the cause, and having found it are they indicating ways and means to prevent a recurrence of that and similar cases?

There is being developed a group of men and women, not all of whom are physicians, who are carrying on this work in prevention in our municipalities and states. They are doing effective work and accomplishing excellent results.

We have only to consider the results that have been accomplished in health betterment in communities which have undertaken work in one or more lines of preventive hygiene. Our infant death rate has shown a marked decrease where intensive work in infant welfare has been undertaken. Communities employing the services of a capable full-time health officer have seen their morbidity and mortality rates decline in proportion as they supported his constructive activities. During the last decade typhoid fever has been reduced to a point far below what the most sanguine dreamed as possible at the beginning of that period.

What have been the determining factors in the accomplishment of these results? They can be expressed in one word, education. The community has seen the value of such work demonstrated over and over again until at last it is willing to attempt some effort along the lines of preventive work. Each new accomplishment served as a demonstration of the value of this work, and it was supported accordingly. It is significant that when the community spirit is once aroused to the value of preventive medicine its scope is never curtailed, but is broadened as opportunity offers. All of these results are accomplished by demonstration and education.

THE CALL TO GREATER SERVICE

Although much good has been accomplished, much more remains to be done. Take puerperal mortality, for instance. It is stated by Dublin that in the experience of the Metropolitan Life Insurance Company there was a death rate from puerperal diseases of more than 70 per hundred thousand. Many of these cases had been looked after by the visiting nursing service of this organization. Dublin says: "It is a national blemish that the death hazard involved in bearing children is greater than that in mining coal or in railway service."

Will any one dispute the statement that a large percentage of these mothers could have been saved if they had had the proper prenatal and confinement care? Infant death rates have been reduced greatly in communities that have gone to work aggressively to provide proper supervision over diet and habits of their infant population. But the irreducible minimum has not been reached. We are not even in hailing distance of it. What has been done is an admirable demonstration of the possibilities of this work and if the medical profession will get squarely behind this and similar movements it will be the means of saving other thousands of lives and tens of thousands of cases of illness.

I do not believe it is through fear of loss of personal gain that more preventive work is not done by physicians; rather it is due to an absorbing interest in the work in hand. Utopia in matters of health will not be reached for several generations, and no capable physician of the present day need fear such a marked lessening in the need for his professional services as seriously to embarrass his material return.

When modern industrial machinery was invented there was great opposition to its use, based on the plea that as one machine could do the work of several hands the opportunities for employment would be lessened to a marked degree. But instead of lessening the need for workers the use of machinery caused such an expansion of factory work that more hands than ever were needed, and in addition each worker could make a higher wage because he could turn out more work.

Instead of lessening the work of the physician, the increased interest in community, home and personal hygiene will call for greater service on his part although this service will doubtless need to be met by a different method, that of preventive medicine rather than curative medicine. The old oriental custom of paying a physician to keep well rather than to cure illness is coming into more extended use in this day.

Social workers and others trained to thinking along the lines of community needs have uncovered large problems that must be met and solved if our economic and social welfare is to progress. They are digging deep into the causes of present conditions and bringing to light many problems hitherto unrecognized. Some of these problems have been indicated earlier in this paper. All of them have a distinctive medical phase with which only our profession can cope.

METHODS TO BE ADOPTED

No hard and fast rules can be laid down for the solution of these problems. The problems of each community are different from those of every other community. The specific conditions to be met are a large number in the aggregate, but certain basic principles underlie all this work. The question is to lessen sickness and mortality by removing the causes, and to strengthen the resistance to baneful influences by increasing the bodily and mental vigor of the population.

In order to prosecute this work without needless overlapping of function, it will be necessary to coordinate existing agencies and direct their efforts toward the one end and along parallel lines. Federal, state, municipal and private agencies are working in this field today, in many instances duplicating one another's work. This should not be. Federal health authorities should exercise supervisory power only over the work which the state health authorities are doing. They should institute research into problems of nation-wide application. They should advise with state health

authorities when these larger problems have a definite bearing on conditions within that state. State health authorities in turn should study health problems within their own borders and be thoroughly acquainted with local problems. Here also their powers should be largely advisory. They should be in a position to assist local communities in the solution of their problems by advice and supervision, using mandatory powers only in extreme cases when the local authorities have failed to act to protect their own people.

To the local health authorities should be delegated the power and authority to meet the needs of the community. They should be familiar with these needs and with their resources for health work, and having this knowledge should so organize and apply it as to improve the health and living conditions of their own people. The state health organization should be called in only for advice, and such educational assistance as has a wider scope of influence than that of the local community.

Private agencies for social work having only a local influence should be subject to supervision by the local health organization, while those having a more extended or state-wide field of endeavor should be under the supervision of the state health officials. In order to exercise the necessary control over these private and semiprivate agencies, it might be well to establish some form of charter or permit under which they could operate; and while it might be difficult in some cases to bring existing agencies under such control, those arising in the future could be taken care of by statutory provision which would make it necessary for them to operate under the supervision of state health officials in order to fulfil the purpose for which they were created.

I think we are all agreed that much money, time and energy are now wasted in useless duplication of social work, and that much of the work now being done could be better done if it had more able supervision. By a system of control as indicated this result could be accomplished.

As this whole question of health betterment is a medical one, primarily, there are opportunities all along the line for physicians to exercise a definite constructive influence on the work. In the execution of the local policies the work touches their personal lives more closely, and here is where their influence will be manifest to the greatest degree.

NEED OF PREVENTIVE WORK

One of the greatest surprises and shocks to our minds was the findings of draft boards in the examination of men for the army. Nothing has brought home to us so clearly as have these figures the lack of interest and care that has been given the people of our communities during the last generation. Stimulated in a large measure by these findings, though in some cases antedating them, the examination of schoolchildren has shown a much greater percentage of defects that will exert a harmful effect on their lives if they remain uncorrected.

The publication of these findings has drawn attention to the great need of preventive work. It is now realized that the perpetuation of such conditions as have been brought to light by these investigations cannot be permitted. The physicial improvement of our population must be undertaken. Hence the different lines of activity which have been indicated previously have been begun to meet this need.

THE INDUSTRIAL FIELD

Another striking illustration of the need of a physician in community work is seen in the introduction of medical supervision into industrial establishments. Our conception of medical ethics until recently has caused us to consider such work as not in accord with the best traditions of our profession. A few hardy souls who had the vision of the possibilities in this work and the courage to stand against the criticisms of their fellows have demonstrated that such work calls forth not only the finest professional qualities of the physician but also his humanitarian and executive qualities as well. As few others these men see the value of preventive measures. Many a worker must needs be denied employment on account of some defect that has proved serious, but which could have been remedied if taken in early life. The findings from the physical examination of applicants for employment and employees, covering as they do all ages beyond that of school life, only emphasize the findings of similar examinations of schoolchildren and army recruits. Yet our industries are so organized that, as shown by a recent study of this question, less than 5 per cent. of nearly a half million workers examined were denied employment on account of their physicial condition—truly a remarkable showing.

The physicial examination of workers and treatment in industrial accidents, while important, does not comprise the end and aim of industrial medical practice. The prevention of accidents with their consequent economic loss both to the individual and to the industry is a matter of prime importance. Often the cause of accidents lies far afield in the home or community life of the injured worker. By teaching and example the industrial physician often can bring about a change in home or community environment that is of the greatest value. His opportunities and responsibilities in this line are in direct ratio to the extent that the organization with which he is associated dominates the community.

The industrial physician's influence for good is not confined to matters of health. He is often able to influence the attitude of the employee toward his work. To do this he must have a fair knowledge of the processes as carried on within the plant; he must know their relation to the finished product as well as their risks. By adjusting the worker to his job, the plant physician makes it possible for him to do his work with the least effort; and by so doing, the worker is able to produce more and thereby receive greater remuneration for his services.

All must agree that treating the defect after it has rendered its victim more or less handicapped will not remedy the situation. Patching up preventable disabilities and deformities will not cause a lessening in their number. If a machine is broken by trying to make it handle material for which it was not designed, we do not replace the broken part and go on feeding it the same sort of material. Only such work as that machine was designed for will be given it to do. Just so with the human machine. What is the use of repairing defective and broken parts, meanwhile making no effort to prevent their development?

CARE OF CHILDREN

When we send our young men and women forth into the industrial world should they not have sound bodies, at least? Is it fair to neglect their formative

years, permitting their lives to be influenced and perhaps marred by lack of care and oversight during this period? And too, is it fair to their mental development to force them to carry throughout their school lives preventable physical handicaps?

It is a poor mechanic who waits until his machinery wears out and gives way to make the necessary repairs and adjustments. If he does he is sure to find it a difficult matter to restore that machinery to its original productive power. Ever after the initial breakdown it will require closer attention and a more frequent renewal of parts. He will find it more to his advantage to inspect it carefully at frequent intervals, thus preventing the trouble sure to follow from neglect.

Why should not a human being have the same care and attention that is given to inert and lifeless wood and steel? All children born into this world have the right to be well born. Their future standing as citizens gives them the right to an equal chance. Their entrance into the world is not of their volition, and the state owes it to them and to itself to see that they enter life surrounded with the best attributes it can provide. The least of these attributes is healthy parentage. This is hard to obtain in many instances; but this fact should not lessen the determination to achieve the desired result whenever and wherever possible. Each and every expectant mother should have such medical supervision as will cause her to bring into the world a sound, healthy child. Accidents of development and birth will continue, but they can be greatly lessened by a systematic and rational method of prenatal care. No one can give this care and supervision as can the physician.

Granted that the number of well-born children will be increased by intelligent prenatal care, our next problem is so to watch over them that they will be carried safely past their first precarious years. Then, as school life opens before them they encounter other conditions which make careful oversight necessary.

If supervision is exercised over the life of the growing child, it can be sent out to face the world with the best possible preparation. It will know what clean living means, what right personal hygiene has to offer, and what a violation of its rules will bring; it will have a clearer conception of its relation to its fellow workers, and with a healthy body and well developed mind it can produce more and better results whether it be in the office, the shop or elsewhere.

OPPORTUNITY FOR CONSTRUCTIVE WORK

This is not utopian, it is common sense. As I see it we are rapidly and surely shaping our state and national lives to this end. Bills have already been introduced into our national Congress and state legislatures bearing on many of the points raised in this discussion. It is only a question of time until some definite and far-reaching action will be taken toward the solution of these problems. How much better it will be if this initial action has the right guiding force to direct its ways, rather than left to the whims and fancies of well-meaning but misdirected persons and societies.

If a restatement of our ethical principles is necessary to enable us to participate in this work, by all means let such a step be undertaken. New times demand new thought and action. In matters vitally touching our lives we have no right to fold our arms and say we have no part in them as they transgress the conception of our relation to our fellow man. Rather we must accept the challenge of the times and throw the weight of our influence into the balance, striving to maintain the position of trust, honor and dignity which has been accorded our profession in the past.

Owing to their exemption from certain civic duties demanded of others, such as jury duty and military service, physicians have grown apart from a feeling of the need of participation in a discussion of community problems. They have been taught to feel that their service was of a type above the more common things of life and that participation in the ordinary civic activities was not in accord with their professional attainments. Recent events, however, have brought us face to face with the fact that our old conceptions and teachings cannot be adapted to present conditions.

At no time in the history of our profession has such an opportunity been presented for doing constructive work. The matter in hand and in the immediate future deserves and demands the best thought and the wisest direction that can be given it. No class or profession is so vitally interested in, or so looked up to, by the general public for assuming the direction of this work as is the medical profession. The opportunity is offered of so influencing the new order of our social fabric by our thoughts and actions as will be an everlasting honor to those who are privileged to have a part in it. Thoughts of today are translated into action tomorrow. Will the call to action find the medical profession united behind a clearly thought out and practical plan for directing this forward movement into the wisest channels productive of the greatest good to the community and the state? It is our opportunity, it is our privilege, it is our duty to use such abilities as we possess to bring about a happy consummation of this task. Our profession has never yet failed in time of need, and I have no fear that it will be found wanting now; but we must prepare to face the issues with one mind, and work shoulder to shoulder for the common good of all concerned.

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Physician at Head of Swedish System of Regulation of Sale of Alcohol.—A letter in the *Nederlandsch Tijdschrift* relates that the entire system of alcohol control in Sweden is the work of a physician, Dr. Bratt. The principle is a maximum allowance of 4 liters of alcohol per family per month. The consequence is that the consumption of alcohol has declined astonishingly, considering that in 1820 it was 4 liters per month per person. Nowadays all alcohol and wines which enter or are made in Sweden are purchased exclusively by the central office of which Dr. Bratt is head. This central office sells only to companies, called "systemen," which make a business of selling liquor and pay their shareholders 5 per cent. All the other profits from the business are devoted to public purposes such as building homes for working men, public libraries, etc. The restaurants and individuals can buy liquor only at these "systemen," and only at a single one. This one delivers them a booklet in which are inscribed their purchases. Wine is free from restrictions as to amount but has to be obtained in the same way, and the purchases recorded in the booklet. In saloons, only soft drinks, beer and wine are servel; in restaurants, an allowance of one small glass of liquor is obtainable at every meal costing at least 2 crowns. Drunkenness is rare and is punished by the forfeiture of the booklet.

INTESTINAL EXTRACTION OF ADSORBED ALKALOIDS *

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The purpose of this work is to determine whether alkaloids adsorbed on Lloyd's reagent, a variety of fullers' earth, are extracted from their adsorption compounds in the intestinal tract and thus rendered therapeutically available. It may be stated as axiomatic that animal experiments still afford the only reliable means of determining whether an adsorbed drug, administered orally, is or is not assimilated in the intestinal tract.

Nevertheless, in a recent publication on intestinal ipecac preparations, Sollmann [1] inferred from test tube experiments, unsupported by experiments on animals, that the ipecac alkaloids when administered orally in the form of "Alcresta Ipecac" (an adsorption compound of the ipecac alkaloids on Lloyd's reagent) are not released and absorbed in the intestinal tract and are consequently therapeutically "inactive." Sollmann did not employ intestinal contents or the extract of intestinal mucosa as the extracting medium, but confined his experiments to the use of distilled water or water rendered very slightly alkaline by the addition of 1 per cent. sodium bicarbonate, with and without the addition of bile salts, and found that these solutions failed to extract any appreciable amount of alkaloid from the adsorption compound. He stated that "It appeared from these experiments that the assumption of the intestinal liberation of emetin from alcresta ipecac is untenable."

Sollmann did not refer to the published results of Bass,[2] Stephens [3] and others on the favorable action of adsorbed ipecac in pyorrhea, dysentery, etc. and concluded his paper with the statement that "the pharmacologic literature of alcresta ipecac confirms that the emetin remains entirely inactive."

To understand the significance attached by Sollmann to the factor of intestinal alkalinity in this connection, it is necessary to review briefly the history of this subject.

The use of the adsorption compound of the ipecac alkaloids for therapeutic purposes followed the observations of J. U. Lloyd [4] that alkaloids were actively adsorbed from acid aqueous solutions by means of fullers' earth, and liberated by ammoniacal chloroform. Since stomach contents are acid, it appeared probable that the emetic effect following oral administration of the ipecac alkaloids might be avoided by administering the adsorption compound of the alkaloids on Lloyd's reagent, the adsorbed alkaloid passing through the acid stomach contents unchanged, but being extracted on reaching the intestinal tract. This proved to be the case, many times the emetic dose of the alkaloids have been taken in this form without producing either vomiting or nausea.

Therapeutic effects following the use of this preparation were noted by various investigators in dysentery and subsequently in pyorrhea, etc., and these effects, as well as the diarrhea induced by too large a dose of the adsorbed ipecac alkaloids, afforded at least presumptive evidence of their release in the intestinal tract.

In attempting to explain the release of the ipecac alkaloids from their adsorption compound in the intestinal tract, Eli Lilly and Company and other investigators appear to have attached too much importance to the factor of intestinal alkalinity, and to have overlooked the possible rôle of organo-extractives and protoplasmic constituents of the cells of the intestinal mucosa in effecting the release in question. Sollmann's recent demonstration that the theory of extraction of alkaloids by weak aqueous alkalis is untenable does not, however, constitute a refutation of the clinical and pharmacologic data on which the theory was based.

In the subsequent experimental section it will be demonstrated that:

1. Sollmann's experiments do not justify the deductions drawn therefrom.
2. Not only emetin, but also quinin, strychnin and atropin, administered by mouth in the form of their adsorption compounds with Lloyd's reagent, from which they are not released by extraction with water or weak alkali, are absorbed in the intestinal tract and produce pharmacologic effects that can only be attributed to the specific alkaloids themselves.
3. The alkaloids in question are released from their adsorption compounds when the latter are introduced into the neutral peritoneal cavity, from which it must be concluded that protoplasmic extraction of the alkaloids proceeds in the absence of alkalinity.
4. Furthermore, soaps and other substances occurring in the intestinal tract and in living protoplasm extract the alkaloids from their adsorption compounds with comparative facility in either a neutral or a faintly alkaline solution.

EXPERIMENTAL

For the sake of convenience, the experimental section of this paper will be divided into two portions:

1. A pharmacologic demonstration that emetin, quinin, strychnin and atropin, when present in an adsorbed state in Lloyd's reagent, are released in the intestinal tract or the peritoneal cavity, producing pharmacologic effects which can only be attributed to the alkaloids themselves.
2. A physical and chemical demonstration that the alkaloids in question may be extracted from their adsorption compounds by means of soaps, lipoids and other substances occurring in the intestinal contents or normally present in protoplasm, even though the alkalinity does not exceed that set by Sollmann and others as the level for intestinal contents, thus affording a satisfactory physicochemical explanation as to how the alkaloids are absorbed by the body cells, although not extracted by water.

It should be noted that throughout these experiments, unless otherwise stated, adsorption preparations of the alkaloids on Lloyd's reagent were employed containing 4 per cent. or less of the alkaloid. These preparations had been exhaustively washed with water prior to commencement of the experiments, until no trace of alkaloid was present in the wash water. On testing they were found to

* From the Research Laboratories of Eli Lilly and Company.

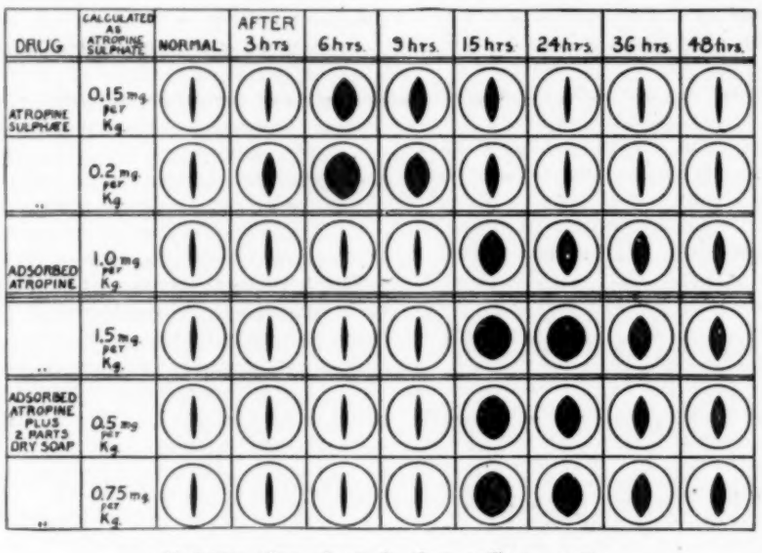
1. Sollmann, Torald: The Solubility of Intestinal Ipecac Preparations, J. A. M. A. **71**: 1125 (Oct. 11) 1919.
2. Bass, C. C., and Johns, F. M.: Pyorrhea Dentalis and Alveolaris, J. A. M. A. **64**: 553 (Feb. 13) 1915.
3. Stephens, J. W. W., and Mackinnon, Doris L.: A Preliminary Statement on the Treatment of Entamoeba Histolytica Infections by "Alcresta Ipecac," Ann. Trop. Med. & Parasitol. **10**: 397 (Feb.) 1917; Protozoological Investigation of Cases of Dysentery Conducted at the Liverpool School of Tropical Medicine, ibid. **11**: 27 (June) 1917.
4. Lloyd, J. U.: Discovery of the Alkaloidal Affinities of Hydrous Aluminum Silicate, J. Am. Pharm. Assn. **5**: 381, 1915.

yield no alkaloid in acid aqueous solutions having approximately the same concentration of acid as the stomach contents, and only such negligible traces as Sollmann himself observed when they were extracted with such weak alkaline solutions as the 1 per cent. sodium bicarbonate which Sollmann selected as his standard for intestinal contents.

Since it is difficult to measure the effects produced by means of emetin, it was decided to carry out the initial experiments on animals with atropin and strychnin on account of the facility with which the characteristic effects of these alkaloids may be recognized.

ATROPIN

Adsorbed atropin given by mouth to cats causes full dilatation of the pupils with failure to react to light. Control experiments on the same animals with atropin sulphate indicate that approximately seven times as much adsorbed atropin as free atropin is required in order to produce mydriasis. A very important observation is that the adsorbed atropin exerts its effect less rapidly; the effect, however, being more uniform and lasting much longer, a point of considerable clinical importance. Furthermore, as an indicator of the mechanism whereby the atropin is extracted from its adsorption compound, it is interesting to note that the amount of adsorbed atropin required to produce mydriasis is lowered 50 per cent. if a small amount of neutral soap is given with the adsorbed atropin when administered orally.



Mydriatic effect of atropin given orally to a cat.

While cats exhibit variations in their sensitivity to atropin sulphate and adsorbed atropin administered orally, the relative proportions of these substances required to produce comparable results in individual cats are approximately the same.

The accompanying diagram, based on results obtained with the same animal, illustrates the extent to which dilatation of the pupil is maintained when subjected to a bright light, thus affording an index of atropin effect at various periods of time after the administration of the alkaloid. From these experiments it is immediately apparent that the adsorption compound, which fails to yield any alkaloid when tested on the basis proposed by Sollmann, nevertheless gives up a sufficient proportion of alkaloid to the intestinal mucosa to produce full dilatation of the pupil with complete failure to react to strong light. It is extremely interesting to note the delay in development of the maximum effect and the prolongation of effect as compared with results obtained with the free alkaloid.

Adsorbed atropin introduced directly into the conjunctival sac produced a typical dilatation of the pupil of the treated eye.

STRYCHNIN

The adsorbed strychnin preparation employed in these preliminary experiments contained 4 per cent. strychnin and yielded no alkaloid on extraction with water or 1 per cent. sodium bicarbonate. This preparation induced typical strychnin effects when administered orally to rabbits, the minimum lethal dose representing 20 mg. strychnin sulphate per kilogram of rabbit. It was found that the adsorbed strychnin in this preparation possesses about one eleventh of the toxicity of free strychnin, but it is interesting to note that, as in the case of atropin, when dry soap is given at the same time the toxicity is doubled, from which it must be concluded that the soap facilitates the release of the strychnin from its adsorption compound and its passage into the mucosa.

TABLE 1.—MINIMAL LETHAL DOSE FOR RABBITS EXPRESSED AS STRYCHNIN SULPHATE

	Mg. per Kilogram
Free strychnin sulphate	1.8
7.5 per cent. adsorbed strychnin	7.7
4 per cent. adsorbed strychnin	20.0
4 per cent. adsorbed strychnin with two parts dry soap	10.0

The lethal dose is considerably diminished by using adsorption compounds containing more than 4 per cent. of strychnin, although none of these compounds yield alkaloid on extraction with water or 1 per cent. sodium bicarbonate. Seven and seven-tenths mg. of strychnin sulphate administered in the form of the 7.5 per cent. adsorption compound exerted an effect equal to 20 mg. in a 4 per cent. compound and to 1.8 mg. free strychnin sulphate.

The animals which received lethal doses of adsorbed strychnin exhibited characteristic strychnin symptoms, hypersensitiveness followed by convulsions and death within four or five hours. While the foregoing experiments demonstrate that extraction by means of a 1 per cent. sodium bicarbonate solution affords no index regarding intestinal absorption, they do not settle the question as to whether intestinal alkalinity or even the intestinal contents themselves are factors of primary importance in effecting the release of the alkaloids in the intestinal tract.

Previous experiments carried out with adsorbed strychnin and marine larvae at Woods Hole in the summer of 1919, suggested the possibility that the alkaloid may be extracted directly from its adsorption compound by protoplasmic constituents of the cells of the intestinal mucosa.

To insure approximate neutrality of the tissues and solutions involved, and to rule out the intestinal

tract and its contents entirely, experiments were carried out in which the above mentioned preparations of adsorbed strychnin were introduced directly into the peritoneal cavities of rats. The lethal doses were found to be approximately 11 mg. of strychnin sulphate for the 4 per cent. adsorption compound, and 6.4 mg. of strychnin sulphate for the 7.5 per cent. compound, per hundred grams of rat; the animals receiving these doses exhibited typical strychnin symptoms and died in two or three hours. The dose of strychnin sulphate required to cause death when introduced into the peritoneal cavity in a single dose was found to be from 0.2 to 0.3 mg. per hundred grams, or approximately one-fortieth the amount present in the lethal dose of the 4 per cent. adsorbed strychnin. This does not, however, afford a fair basis

TABLE 2.—STRYCHNIN INTRAPERITONEALLY IN RATS

Drug	Dose per 100 Gm. Rat Calculated as Strychnin Sulphate, Mg.	Results
Strychnin sulphate, single dose....	0.175	Survived
	0.2	Death in 75 minutes
Strychnin sulphate, divided doses:		
0.065 mg. every 15 min.	0.455	Died after 7 injections in 1¾ hours
0.065 mg. every 20 min.	0.455	Died after 7 injections in 2 hours
0.065 mg. every 30 min.	0.975	Survived after 15 injections in 7 hours
4 per cent. adsorbed strychnin.....	10	Convulsions in 1 hour; recovered
	11	Convulsions and death in 2 hours
7.5 per cent. adsorbed strychnin...	5	Survived
	6.4	Convulsions and death in 1 hour
4 per cent. adsorbed strychnin in collodion sack	12	No effect in 24 hours; sack opened; death in 2 hours
	50	No effect in 4 days; sack opened; death in 1 hour
Strychnin sulphate in collodion sack	0.5	Death in 5 minutes

of comparison, since the free strychnin sulphate is rapidly absorbed and exhibits a high peak effect, while there is every reason to believe from the experiments on atropin, presented above, that the alkaloid is given off from the adsorption compound slowly, evenly and with far less peak effect.

A fairer basis of comparison is afforded by the use of divided doses of strychnin sulphate, fractional amounts being administered at from fifteen to thirty minute intervals; the total dose required to cause death in from two to three hours being determined. Working on this basis, rats weighing 100 gm. were found to withstand the intraperitoneal administration of 0.13 mg. of strychnin sulphate per hour without convulsions, but doses of from 0.2 to 0.25 mg. per hour proved fatal at the end of from one and three-fourth to two hours. From this it may be concluded that 0.5 mg. of free strychnin sulphate, when administered in divided doses, is about equivalent to 11 mg. of strychnin sulphate in the form of the 4 per cent. adsorbed strychnin, and 6.4 mg. of 7.5 per cent. material, giving ratios of 20:1 and 13:1, respectively, figures which correspond roughly with extraction data to be presented subsequently.

It may be concluded from the foregoing that alkalinity is not necessary for cellular extraction of strychnin from its adsorption compound.

In order to determine to what extent direct contact between the protoplasmic surfaces of the peritoneum and the adsorption compound was a necessary factor for the extraction or release of the alkaloid, collodion sacks were prepared containing a sufficient proportion of glycerin to render them freely permeable to strychnin or soap, and moderately permeable to albumin, but still impervious to cells or particles of Lloyd's reagent (Table 2). Lethal doses of the 4 per cent. adsorbed strychnin preparation were then introduced into the sacks, which were sealed and placed in the peritoneal cavities of rats. No toxic effects whatever were observed for a period of two or three days. The sacks were then exposed, cut open, and the peritoneal cavity once more closed. In all such cases even a minimal fatal dose, after remaining two or three days in the sack, during which time it had exerted no strychnin effect, was found when the sack was opened to possess its full toxicity, the death of the rat occurring just as rapidly as would have been the case had a corresponding amount of adsorbed strychnin been introduced into the peritoneal cavity, from which it must be concluded that during the period that the adsorbed strychnin remained in the sack, there had been no loss of strychnin through the sack wall. Since the sacks permitted a comparatively free diffusion of aqueous fluids, and control tests showed that strychnin sulphate passed through with sufficient rapidity to cause the death of animals in a few minutes, these experiments afford some support of the view that the release of strychnin from its combination with Lloyd's reagent, both in the peritoneal cavity and in the intestinal tract, is to be attributed primarily to direct contact between the adsorption compound and the protoplasm of the cell, and is not dependent on the alkalinity of the intestinal contents.

QUININ

An adsorbed quinin preparation, containing 4 per cent. of the alkaloid and yielding no quinin on extraction with water, was administered orally to dogs, the amount excreted in the urine being determined with as much accuracy as possible. Quinin sulphate was given orally to the same dogs for control purposes.

TABLE 3.—EXCRETION OF QUININ WHEN ADMINISTERED AS QUININ SULPHATE AND AS ADSORBED QUININ

	Quinin Sulphate, per Cent.	Adsorbed Quinin, per Cent.
Dog 1	21.4	19.8
Dog 2	30.9	19.3

The low recovery of quinin in the urine is probably attributable to oxidation. It is interesting to note that in the case of quinin, the alkaloid is extracted from its adsorption compound and is excreted in amounts comparable to those following the administration of quinin sulphate.

EMETIN

Emetin as a free alkaloid or alkaloidal salt does not lend itself to experiments designed to compare its effects with those exerted by the Alcresta tablets of ipecac or emetin adsorbed on Lloyd's reagent, because the free emetin cannot be given orally without producing emesis. When Alcresta tablets of ipecac which yield no alkaloid on extracting with water, are administered orally to dogs in fairly large doses, a diarrhea is produced which affords evidence that some of the alkaloid is released in the intestinal tract, since Lloyd's reagent alone is not a laxative.

Furthermore, following oral administration of as small a dose as 2 grains of adsorbed emetin, the alkaloid may readily be detected in the urine. In all experiments with dogs, some emetin has been recoverable in the urine.

The ipecac alkaloids are much less toxic than strychnin, and their effect is more delayed and is not accompanied by any readily recognized symptoms; consequently it is difficult to parallel the adsorbed strychnin results in the intestinal tract and peritoneal cavity. By using a 10 per cent. adsorption compound of emetin on Lloyd's reagent, a preparation which yields no emetin on extraction with water or 1 per cent. sodium bicarbonate, lethal effects were exerted on cats to which the preparation was administered orally, and on rats when it was introduced into the peritoneal cavity. Emetin appears to be absorbed very slowly from the intestinal tract, but exerts a cumulative effect, causing lethargy and loss of appetite, death occurring in four or five days after the oral administration of the 10 per cent. adsorption compound to cats in a dose of 60 to 70 mg. of adsorbed emetin per kilogram of body weight. Similarly, 20 mg. of emetin in the form of the 10 per cent. adsorption compound, when introduced into the peritoneal cavity of rats weighing 100 gm., causes death in twenty-four hours. When adsorption compounds of emetin were introduced into the peritoneal cavities of guinea-pigs, emetin was demonstrable in the urine, as much as twenty-four per cent. being recovered in the urine of a guinea-pig which had received 60 mg. of emetin in the form of the 10 per cent. adsorption compound.

A series of experiments was carried out to demonstrate that soaps and fatty acids may play a rôle in releasing the ipecac alkaloids from their adsorption compound. While large doses of 3.6 per cent. Alcresta ipecac may be administered to cats without causing emesis, on addition of soap or even fatty acid, considerably smaller doses of the adsorbed alkaloid caused vomiting. Adsorbed ipecac alkaloids taken by mouth in moderate doses for three or 4 days usually produce a laxative effect in man, while larger doses are cathartic. The data accumulated by Bass, Stephens and others indicate the release of the ipecac alkaloids from their adsorption compound in the intestinal tract. One of us (Walters[5]) has personally studied and observed the destructive effect exerted on endamebas in pyorrhea lesions by ipecac alkaloids derived from the 3.6 per cent. adsorption compound administered orally. Space limitations preclude a detailed discussion of the available clinical and pharmacologic data; but it is clear that clinicians who have employed the adsorption compound have generally agreed that a larger dose is required to produce a given effect than is the case when emetin hydrochlorid is employed. The data presented by Fantus,[6] Eggleston and Hatcher,[7] referred to by Sollmann, appear to indicate that lack of emetin symptoms, delay in development of pharmacologic effects, and increased dosage required are all factors which may well be attributable to a delayed release of the alkaloid and the avoidance of peak concentrations.

EXTRACTION EXPERIMENTS

It has been demonstrated in the preceding experiments that alkaloids adsorbed on Lloyd's reagent in such a manner that they could not be released by extraction with water could nevertheless be extracted, at least to a certain extent, by living tissues. It now remains to be determined whether this extractive capacity is dependent on the use of living protoplasm or whether similar results may be obtained by utilizing substances occurring in protoplasm, particularly lipoids, soaps, etc., or by egg yolk, in which alkaloids might be expected to be more soluble than in distilled water.

Soap was found to be an excellent solvent for quinin and other alkaloids. From our data it may be stated that the addition of 1 per cent. soap raises the solubility of quinin in water tenfold, and 16 per cent. soap raises the solubility ninetyfold.

It has been noted repeatedly in the preceding section that soaps and fatty acids facilitate the release of alkaloids from their adsorption compounds in vivo. Since soap is a good solvent for alkaloids, it might well be expected that it would also facilitate extraction in vitro, and this was found to be the case. A comparison was made of the relative facility with which various alkaloids were extracted from their adsorption compounds on fullers' earth by water, weak alkali of the strength selected by Sollmann, and various soap solutions. Quinin was most readily extracted by means of soap, and atropin, strychnin and emetin less readily; but in all cases the yield of alkaloid was considerable, the ratios observed suggesting some correspondence with those observed in the preceding animal experiments. It is particularly interesting to note that soap, to which oleic acid had been added in order to reduce its alkalinity below that of the 1 per cent. sodium bicarbonate solution used by Sollmann, was nevertheless an excellent solvent, removing 32 per cent. quinin and from 7 to 10 per cent. of the other alkaloids, while the sodium bicarbonate solution extracted only negligible traces.

TABLE 4.—ALKALOID EXTRACTION WITH SOAP*

	Alkaloid Contained in Adsorption Compound				
Amount Extracted by:	Quinin, 4.8%	Atropin, 2.5%	Strychnin, 5%	Strychnin, Ipecac Alkaloids, 7.5%	Ipecac Alkaloids, 3.6%
Water	Nil	Nil	Nil	Nil	Nil
1% sodium bicarbonate Pu approximately 8	Trace	Nil	Nil	Nil	Nil
N/10 sodium oleate	56.6%	20.7%	15.3%	....	10.5%
N/5 sodium oleate + oleic acid to Pu 7.2 to 7.5	32.4%	9.7%	8.8%	11.9%	6.0%
	32.2%	8.3%	8.8%	....	7.8%

* In each experiment, 2 gm. of the adsorption compound of the alkaloid on Lloyd's reagent was subjected to two extractions with 25 c.c. of solvent, the total amount of alkaloid extracted being recorded in the table as a percentage of the total amount originally present in the adsorption compound.

While it is not within the scope of this paper to discuss at great length the extractive action of soap on these adsorption compounds, it may be stated that when higher concentrations were employed, as much as 90 or 95 per cent. of the alkaloid present could be removed from a 5 per cent. adsorption compound by two or three extractions. Under similar experimental conditions to those reported above:

Egg yolk extracted 10 per cent. ipecac alkaloids and 13 per cent. quinin.

Horse corpuscles extracted 6 per cent. ipecac alkaloids and 9 per cent. quinin.

Intestinal contents extracted more than 1 per cent. of all alkaloids tested.

Macerated intestinal mucosa extracted from 1 to 4 per cent. of all alkaloids tested.

The foregoing results lend support to the theory previously advanced, that soaps, fatty acids, lipoids, etc., present in or near the surface of the cell proto-

5. Walters, A. L.; Baker, W. F., and Koch, E. W.: Pharmacological Studies of the Ipecac Alkaloids and Some Synthetic Derivatives of Cephaeline, J. Pharmacol. & Exper. Therap. **10**: 341 (Nov.) 1917.

6. Fantus, Bernard: Fullers' Earth: Its Adsorptive Power and Its Antidotal Value for Alkaloids, J. A. M. A. **64**: 1838 (May 29) 1915.

7. Eggleston and Hatcher: J. Pharmacol. & Exper. Therap. **7**: 241, 1915.

plasm, facilitate a direct extraction of the alkaloid from the Lloyd's reagent.

It is believed that the experimental data presented above afford substantial evidence that the alkaloids atropin, quinin, strychnin and emetin, adsorbed on Lloyd's reagent, are extracted in the intestinal tract and thus rendered therapeutically available.

SUMMARY

It has been demonstrated that alkaloids, adsorbed on fullers' earth in such a manner that they cannot be extracted by water or an aqueous solution of sodium bicarbonate having the alkalinity of intestinal contents, are released in the intestinal tract when administered orally, and that this release is not dependent on intestinal alkalinity.

The proofs of this are:

Adsorbed atropin administered to cats by mouth produced prolonged dilatation of the pupil of the eye.

Adsorbed strychnin administered by mouth caused convulsions and death in rabbits and rats.

Adsorbed strychnin introduced into the peritoneal cavity of rats caused convulsions and death.

Adsorbed emetin administered orally in large doses caused the death of cats; introduced into the peritoneal cavity it caused the death of rats. Emetin was excreted in the urine when the adsorbed alkaloid was administered orally or introduced into the peritoneal cavity. Adsorbed emetin administered orally caused diarrhea in men and animals.

Quinin was recovered in considerable amount in the urine after oral administration of the adsorbed alkaloid.

In all of the foregoing cases the dose of a given adsorbed alkaloid required to produce a specific effect was found to be larger than that of the free alkaloid, and it was demonstrated that the rate of absorption was retarded and the action of the alkaloid prolonged, thus avoiding a peak concentration.

While the alkaloids were not extracted from their adsorption compounds by water or a 1 per cent. aqueous sodium bicarbonate solution, they were extracted with considerable facility by slightly alkaline and neutral soaps.

The alkaloids were extracted to a certain extent by egg yolk, blood corpuscles, plasma, intestinal contents and macerated intestinal mucosa.

The foregoing data agree with Sollmann's findings that the ipecac alkaloids are not released from "Alcresta Ipecac" by extraction with a 1 per cent. aqueous sodium bicarbonate solution in vitro, but they do refute the inference drawn by Sollmann that the ipecac alkaloids are not liberated in the intestine when administered orally in the form of this adsorption compound.

Curability of Syphilis.—Probably no greater problem confronts us today in dealing with syphilis, even in the presence of our knowledge of the disease, its specific organism, the methods of diagnosis, the available drugs which we know to be thoroughly efficient in its treatment, and the vast amount of work done within recent years by the world's best syphilologists, than the one of knowing when a case is cured. Neglected syphilis, long considered an incurable disease, still requires a vast amount of study before it can be stated, without fear of contradiction, that it is curable; in the strictest sense primary syphilis is curable, and evidence is sufficient to prove this belief because of the number of cases known to become reinfected.—H. Gluckman, *Med. J. Australia*, April, 1920.

PHYSICAL FACTORS IN MENTAL RETARDATION *

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During the year 1918-1919, at the clinic for mental and nervous diseases, fourteen children were diagnosed mentally deficient and eighteen mentally retarded. A review of the statistics clearly emphasizes the importance of distinguishing between these two conditions. It was obvious from a study of the histories of the eighteen children that the question of acquired mental retardation was, unfortunately, scarcely ever the first consideration. The child who is "backward," who is "two or three years below the grade" of children corresponding to his actual age, or who has "not been promoted," who is "slow," "apathetic," "indifferent," "plodding," "mopey" or what not, is very likely to be convicted of feeblemindedness before he has been even superficially tried in a court of medical inquiry. Once regarded as mentally deficient, the next logical step is an institution, and therefore the problem of the retarded child is often visualized and at least potentially disposed of before a physical examination has been made. It was evident, too, from our cases that the important matter of such a child's future must not be decided by a psychometric measurement alone, however scientific and exact it may be. A mental test is only of relative value and should never be the primary factor on which judgment is based. If we had depended solely on such a restricted psychologic point of view, it would have been necessary to regard each one of our eighteen patients as definitely feebleminded and to have taken steps to have them placed in custodial institutions. Following the plan of making first a thorough physical examination and then intensively investigating every clue uncovered, we were able to determine that in eighteen, or 56 per cent., of all our cases, congenital mental deficiency did not exist at all, and in fifteen, or 84 per cent., of the retarded group, there were significant underlying physical factors on which the mental retardation depended. In other words, according to our experience there is more than an even chance that unless a careful search is made for possible physical causes, the diagnosis of true mental deficiency may be an error and the child may be mistakenly admitted to an institution for defectives. In our list there were six instances of congenital syphilis, including one with anemia and ozena; one case of chronic suppurative tonsillitis and valvular heart disease; one of rachitis; one of angular gyrus lesion; one of hypopituitarism; and five children who, although they had no definite organic disease, were nevertheless markedly undernourished and underdeveloped as a result of economic and environmental conditions.

TYPICAL PROBLEMS

It is not within the scope of this paper to discuss exhaustively the histories of all these patients. Most of them present instances which may be duplicated in any large clinic. However, in no case was the condition obvious, and the basic factor would have been easily overlooked if it had not been carefully searched

* Read before the Thirty-Fifth Semiannual Meeting of the Association of Trustees and Medical Superintendents of State and Incorporated Hospitals for the Insane and Feeble-Minded of Pennsylvania, Woodville, Pa., May 28, 1920.

for. In this connection it is interesting to note that three of the syphilitic children came to the clinic with elaborate psychologic reports, which, however, disregarded the physical side of the problem. The child with ozena, a boy of 10, was shy, timid and almost seclusive. The fact that he was shunned by his fellow schoolchildren, on account of the nasal condition, shut him off from many of the usual avenues of learning and had much to do with his supposed "feeblemindedness." In a measure the same thing held true for a girl of 11 who had chronic tonsillitis and valvular heart disease, and was considerably below her proper grade. Not being able to enter into the play and games of the other girls, she soon found herself more or less alone, and reacted by gradually falling behind in her classroom work. Our observation of the entire group from the therapeutic standpoint leads us to believe that eleven will eventually regain a normal level, and that most of the others will show marked improvement.

Two of the cases are unusual enough to merit more detailed description. They illustrate the urgent necessity of applying every advance and refinement of modern medicine to the study of this group of patients.

CASE 1.—*Hypopituitary disease.*—A. C., a girl, aged 12 years, was brought to the clinic because she was "backward," "troublesome" and constantly being returned as "undesirable," by the various families with whom the aid society attempted to place her. The consensus was that the child was forgetful, sluggish in her movements, gluttonous, indifferent and sleepy. She was so hopelessly outclassed at school that it seemed useless to continue to send her. The girl was 61 inches in height and weighed 165 pounds. On superficial observation the skeletal overgrowth seemed generalized, but careful anthropologic measurements brought out a decided relative increase in the length of the long bones. There was a pathologic amount of adipose tissue, particularly in the axillae, breasts, over the abdomen and in the gluteal region. The temperature was continuously subnormal. The psychometric measurement (Binet-Terman) gave a mental age of 7.5 years, being a retardation of 4.5 years. The sugar tolerance was extremely high: for sucrose, 400 gm. and for glucose, 325 gm. Sugar could not be made to appear in the urine unless pituitary extract was injected subcutaneously after the glucose ingestion. Thyroid extract promptly produced mild toxic symptoms. Doses of pituitary gland, varying from 30 to 300 grains daily, were given, and the effect noted and paralleled with the blood sugar curves. Finally, the character of these curves changed to one which might be expected in a normal individual, and, following glucose ingestion, sugar appeared for the first time in the urine. Here was an index of reestablished carbohydrate metabolism. We assumed therefore, that we had determined the correct dosage of pituitary extract, namely, 10 grains three times daily, which will be continued indefinitely.

At present the child is much brighter and takes an almost normal interest in life. She is no longer forgetful, gluttonous or sluggish. She is with a private family and attends school regularly, making at least the average amount of progress. The outlook today is decidedly more hopeful than it was six months ago, when an institution for mental defectives seemed to be the only solution.

CASE 2.—*Alexia.*—W. O., a girl, aged 15, was brought to the clinic because she was slow, indifferent, sullen, and had "no intelligence." Her mother was discouraged about the future, and requested that the child be sent to an institution. Physically there was anemia, and in one eye extreme hyperopia. The patient was unresponsive, but finally cooperated to the extent of answering a few questions and performing some simple tests. It was at once noticed that while she had little difficulty in regard to general and current information, she was apparently unable to read or write more than a dozen single syllable words. A comprehensive neurologic examination revealed almost complete word blindness and agraphia. There was considerable difficulty in recognizing the letters of the alphabet, and B, and D, M and N, and X and Z were often misread. There was neither hemianopsia, astereognosis nor sensory changes.

At this point a history of the previous condition was requested. It had not been submitted at the first interview because the mother's principal object in having the patient brought to the clinic was to determine the degree of mental deficiency and to decide whether or not she could be committed to an institution. I will now quote from the very illuminating report of the social service workers. "W. was apparently normal before having typhoid fever. She was inclined to *learn too fast* in school, and never had any trouble with her work. The attack of typhoid fever occurred in March, 1913, and was very severe. She was delirious much of the time. As far as I am able to gather, W. could not tell one letter from another after she had typhoid, and could not read or write at all. She knew they were letters, but could not tell one from another. She could not recognize even simple words, written or printed, or write from dictation. Last October (1919) she began to distinguish letters and could copy a few. 'Mother' was the first word she could write."

We felt justified in making a diagnosis of alexia. Possibly, from the description, the "typhoid fever" was in reality a meningitis and probably there had been an occlusion of the blood supply to the angular gyrus.

In subsequent interviews with this patient we were able to overcome much of her unwillingness to cooperate. We found that she had almost entirely withdrawn from the companionship of other children, because she feared that they would comment on her educational shortcomings. In a large measure her sullenness and apathy were the rather natural result of a combined shame and defense reaction in an adolescent girl, who found herself, through no fault of her own, cut off from the normal social intercourse which means so much at this time of life.

To have depended on an intelligence measurement alone in this case would have been utterly futile. Answers to questions involving a knowledge of reading and writing classed the patient as an idiot; on the other hand, some of the average adult tests not requiring these faculties were well within the scope of her mental powers.

This child has been under treatment for less than three months. The social service worker who has undertaken her reeducation reports considerable progress. She writes: "W. has been trying to read the cook book, and with a little help made out one whole recipe. She can read sentences in the first reader quite well and can spell quite a few words." The vocabulary has been greatly augmented and now the patient is able to write a short letter. We are planning a course at the Y. W. C. A. which should serve the double purpose of supplying her educational deficiencies and of establishing social contacts. There is still a lack of confidence, and her initiative and ambition need to be further stimulated. With this end in view we are seeking suitable employment for her. It seems reasonable to believe that this girl may be made a useful member of society instead of spending her life in an institution for mental defectives.

THE DIAGNOSTIC CLINIC IDEA APPLIED TO MENTAL RETARDATION

It is interesting to estimate the amount of medical effort required for the study and diagnoses of our eighteen mentally retarded children. In each case there was a neurologic, psychiatric and psychometric examination. Extensive consultation was necessary, and the internist, surgeon, laryngologist, otologist, rhinologist, ophthalmologist, gynecologist and surgical dentist were called into service. The clinical laboratory was asked to examine the urine, the sputum, the blood as a routine and for the Wassermann reaction, and the spinal fluid. There were roentgenograms of the head, teeth and other parts of the body. The biochemist studied the metabolism through chemical

analyses of the blood, particularly with reference to carbohydrate tolerance as affected by the administration of endocrine substances. Basal metabolism was determined. At times it was deemed necessary to extend special medical and laboratory consultation and social service surveys to the families of the patients. Often results of intensive work along some of these lines were negative, and the sole contribution to diagnosis was the elimination of a more or less remote possibility. One must expect to wash much gravel before "pay dirt" is struck.

FEASIBILITY AND ADVANTAGES

I have briefly sketched the diagnostic clinic idea as applied to mental retardation. The idea is so simple and so logical that it is surprising it has had such a limited application. There are several questions which may be fairly asked by physicians, trustees of hospitals, legislators and the lay public, who must foster and encourage the plan if it is ever to be put into general operation. In the first place, is it feasible? The question of the location of such a clinic would have to be determined by practical considerations, existing facilities, ease of access and distribution of population. Probably the most direct method would be the establishment of a diagnostic center in one of the institutions for mental defectives. Proximity to a large city would insure an adequate consulting staff. The laboratory facilities would have to be sharply reorganized. The intramural personnel should include, at a minimum, a scientific director, a pathologist with an assistant, a biochemist and a roentgenologist. To such a scientific center the mentally retarded child would be sent for intensive study. The ultimate object would be to make a competent diagnosis and to decide whether there was actual congenital deficiency which would call for institutional care; or, if the condition was capable of correction, the patient would be returned to the community after contact had been made with an agency which would supervise the details of treatment. Such agencies already exist, and it would only be necessary to broaden their scope. A further function of such a diagnostic clinic would be the examination of children referred to the various institutions for admission, and a survey of those already being cared for. This would constitute a most valuable and productive form of research.

What would be the cost? The initial outlay would be considerable. A suitable building would have to be erected. However, if this was planned in conjunction with a much needed new institution, the cost could be kept within reasonable limits. If the work was carried on at one, or at most two points, duplication in the matter of staffing, equipment and maintenance could be avoided. The entire expense would compare favorably with the amount involved in certain projects now being considered by various state legislatures.

Finally, is it really worth while? Entirely aside from altruistic considerations, it seems highly important for purely material reasons to reconstruct as many of these children as possible. If mental retardation is preventable and correctable, as it often appears to be, then it is entirely reasonable to assume that the wastage involved in a failure to recognize conditions which can be corrected must in the end be returned as a tremendous economic and social liability. There remains the question of our duty in this matter. The individual who is suffering from a physical ailment, such as typhoid fever, pneumonia, tuberculosis or appendicitis, be he ever so indigent and dependent, has at once the advantage of every resource of scientific and modern medical and surgical research. The spread of the psychopathic hospital idea will eventually insure the same advantage to the mentally sick. Is the child, who through no fault of its own is mentally handicapped in the stuggle for existence by the effect of some physical disease, to be denied a chance merely because such disease may be obscure and consequently difficult and expensive to discover?

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THE NONOPERATIVE DETERMINATION OF PATENCY OF FALLOPIAN TUBES

BY MEANS OF INTRA-UTERINE INFLATION WITH OXYGEN AND THE PRODUCTION OF AN ARTIFICIAL PNEUMOPERITONEUM *

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The determination of patency of fallopian tubes has hitherto been possible only by direct inspection and palpation obtained by laparotomy. Physical examination was wholly inadequate because it still left the question of patency a matter of speculation. This is especially true when, as in certain instances, the tubes are sealed tight at their fimbriated end, although no distention of the lumen is present. In other instances it is hard to diagnose occlusion of the tube due to hydrosalpinx when the walls are flaccid. Some tubes are closed by adhesions secondary to a peritonitis that arises outside of the gynecologic domain. No matter how clear the history, the question as to whether such a tube is patent or not is always a matter of doubt. The same holds true in cases in which the tube may be occluded by a tumor.

It is often not possible to distinguish whether a mass in either lateral fornix is due to disease of the tube or the ovary. Even in the presence of a bilateral mass, the tubes may nevertheless be patent despite suspicions directed against them. I have seen a patient who refused operation, although the surgeon assured her that she had pus tubes and would not only be sterile, but would remain an invalid. I have since established that her tubes are patent by the use of intra-uterine oxygen inflation. In her case the ovaries were undoubtedly at fault.

An accurate knowledge of the anatomic patency of the tubes is admittedly important in formulating prognosis and therapy of female sterility. If we are aware that a patient is sterile because her fallopian tubes are closed, plastic operations on the cervix, curettage, dilatation and opotherapy will obviously be useless. Indeed, the disease in the tubes is often clinically manifest after an operation on the cervix, as evidenced by a rise of temperature, pain, tenderness and swelling to one or both sides of the uterus developing within a short time after the operation. The patient may in all innocence charge this to the surgeon, when in reality it is simply a lighting up of an old latent infection.

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* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several illustrations. The complete article appears in the Transactions of the Section and in the author's reprints.

The impossibility of fecundation in unsuccessful cases is due to obstruction in some portion of the tube, either at the uterine ostium, along its lumen, or at the fimbriated end. In the presence of a small cornual polyp blocking the uterine insertion of the tubes, or occlusion by salpingitis isthmica nodosa, hydrosalpinx or some malformation within the tube lumen (complete spurs, blind canals, etc.), any operation on the lower uterine portion must result in failure.

INCIDENCE OF STERILITY DUE TO DISEASE OF THE TUBES

It is well to remember, as Giles states, that practically 11 per cent. of female sterilities is due to tubal disease. In women under 24 years of age it is higher, reaching 14.4 per cent. Add to these 4.4 per cent. of cases due to blocking of the fallopian tubes by peritonitis, and we have an average incidence of 15 per cent. of cases of sterility due to pathologic tubes. For convenience we will not include tumor formations and malformations. It will then be seen that one out of six or seven women owes her sterility to closed tubes.

Here it may be mentioned that, in certain cases in which no gross physical abnormality can be elicited by examining the woman (2 per cent. of cases) and the potency of the male partner is established by the finding of live spermatozoa in the cervix and fundus uteri, a congenital atresia of the tubes or of some part of the lumen may be the real cause of the sterility. One naturally hesitates to subject such a woman to an exploratory laparotomy, so that a method whereby patency of the tube could be demonstrated without surgical means is eminently desirable.

Fig. 4.—Pneumoperitoneum: 250 c.c. of oxygen injected into the peritoneal cavity by way of the uterus and fallopian tubes. Diaphragm visible on the right side, not on the left. Slight downward displacement of the liver.

INTRA-UTERINE OXYGEN INFLATION AS A METHOD OF DIAGNOSIS

This I believe has been effected by the combination of oxygen with fluoroscopy and roentgenography. It is possible to determine whether the tubes are patent or otherwise by inflating the uterus with oxygen and in normal cases filling the peritoneal cavity with a measured quantity of oxygen. The artificial pneumoperitoneum establishes definitely the patency of the fallopian tubes. In a preliminary report I pointed out that the peritoneum tolerates the oxygen introduced by way of the uterus and fallopian tubes equally as well as by direct abdominal puncture. There is no doubt, however, that the result is the same whether the peritoneum is filled with oxygen through the abdominal wall by puncture or through the uterine cavity without puncture. For general abdominal diagnosis at least a liter to a liter and a half of gas is necessary. For the specific purpose of establishing the fact of open fallopian tubes the amount of oxygen need not exceed 300 c.c., and in the last of my cases tested by this method about 150 c.c. would be the average volume used.

In one case from Dr. H. Lilienthal's service I injected oxygen by way of the fallopian tubes for the diagnosis of a possible perinephric abscess complicating an operation for acute perforative appendicitis. An abdominal sinus at the site of the appendix incision was proved to communicate with the peritoneal cavity because most of the oxygen escaped through it. Bubbles of gas were seen to form through the moisture at the sinus opening, and this leakage prevented the formation of an enclosed pneumoperitoneum.

The small volume of oxygen has the advantage of enabling us to examine the patient in the office without the necessity of her going to bed for twenty-four hours or more. Symptoms of phrenic irritation are decidedly less, and the patients may go about their daily work. When a greater amount of oxygen is injected, the patient is more comfortable in a moderate Trendelenburg posture. This causes the oxygen to rise to the pelvis, and the excursions of the diaphragm are less hampered by the column of oxygen.

In the first patient in whom I injected oxygen through the uterus I did not measure the quantity but allowed it to pass into the peritoneal cavity till a moderate amount of visible distention resulted. The fluoroscopic and roentgenographic pictures were the same as described by Stein and Stewart, who introduce the oxygen through a trocar or needle thrust into the abdominal wall. This patient was allowed to go home one hour after the examination and advised to lie down in a bed with the foot elevated. She was reexamined at the end of the third day, and a small amount of oxygen was still present below the diaphragm. The estimated amount she must have received was from 2 to 2.5 liters.

In the next thirty-two cases of sterility examined by intra-uterine oxygen inflation it was endeavored to establish several points: (1) the tolerance of the patient for the method as a diagnostic procedure; (2) the possible danger of infection; (3) the danger of embolism; (4) the diagnostic reliability of the findings and interpretation, and (5) the minimum volume of

oxygen necessary to produce the pneumoperitoneum which could be seen by fluoroscopic examination.

1. *Tolerance of the Patient.*—The patients stood the examination with very slight discomfort. At most it was like the pain produced in some patients by the introduction of a uterine sound. Nervous women complained more from fear than actual pain, because the vast majority of the patients made no complaint during the injection. The passing of the oxygen into the peritoneal cavity is painless. Uniformly there is some sense of pressure about the diaphragm within five or ten minutes, and slight "sticking" sensations in one or both shoulders. A half liter of oxygen causes very moderate symptoms. A liter of oxygen is followed by greater epigastric oppression and shoulder pains. When more than a liter is used, the symptoms are proportionately increased. When from 100 to 200 c.c. are injected, the symptoms are very slight and do not interfere with the patient's daily routine.

2. *Possible Dangers of Peritoneal Infection.*—There are no pelvic symptoms after the gas inflation. In no case was there evidence suggestive of peritoneal irritation. Not a single one of the symptoms characteristic of peritoneal infection was noted. There was no nausea or vomiting, pains, rigidity or tenderness, or rise in temperature or pulse rate. The patients were all closely observed. They were followed through three or four menstrual periods to note any late sequel of the oxygen test.

3. *Possible Dangers of Embolism.*—In no instance were there symptoms suggestive of air embolism. This question gave me some concern in first contemplating the method. By actual experiment on the dog I found that the animal tolerated 350 c.c. of oxygen introduced directly into the leg vein without any symptoms attending the injection or following it. The rate of oxygen flow was the same as employed in my sterility patients. As 350 c.c. is the very maximum amount required, I felt that the accident of embolism from oxygen could be disregarded. I have since learned that a number of army surgeons use this method of intravenous oxygen injection for therapeutic purposes, especially in pneumonia.

4. *Diagnostic Reliability of the Findings and Interpretation.*—When an artificial pneumoperitoneum was produced, it was conclusive in proving the patency of the genital canal from the external end to the internal abdominal end. This, however, could result when only one tube was patent and the other closed, as well as when both tubes were actually patent. For practical purposes in the consideration of sterility it suffices that one fallopian tube is patent. Future observations may make it possible for us to draw definite conclusions on the question of unilateral or bilateral patency, and, if unilateral, which side is open or closed. At this time I am not prepared to present data on this point.

When an artificial pneumoperitoneum does not result from the intra-uterine oxygen inflation, the probability is that there is some obstruction in the genital canal above the internal os. It may be at the uterine ostium of the fallopian tubes, along their course, or at the fimbriated end. Whether this be by uterine cornual polypi occluding the opening as a ball valve or inspissated mucus in the tubal lumen, or agglutination of the plicae of the endosalpinx or a sealing over of the fimbria, the result will be the same. One negative result is not enough to establish nonpatency. In such an instance the test is repeated once or twice, a little more gas being used each time. If in the repeated tests the oxygen fails to pass through, we may conclude that the patient is sterile because of this mechanical blockade. Occasionally, however, when the stenosis operates like a ball valve, as in the case of a polyp at either uterine horn, the greater pressure by the increased gas volume may succeed in forcing the oxygen through, and then a pneumoperitoneum would result. In such an event, however, the test would still have a certain diagnostic value and might serve to indicate the proper therapeutic measure to be adopted to overcome this difficulty. Inspissated mucus at the uterine end of the tube would have the same effect, and here, too, the negative result is significant of a mechanical cause of sterility.

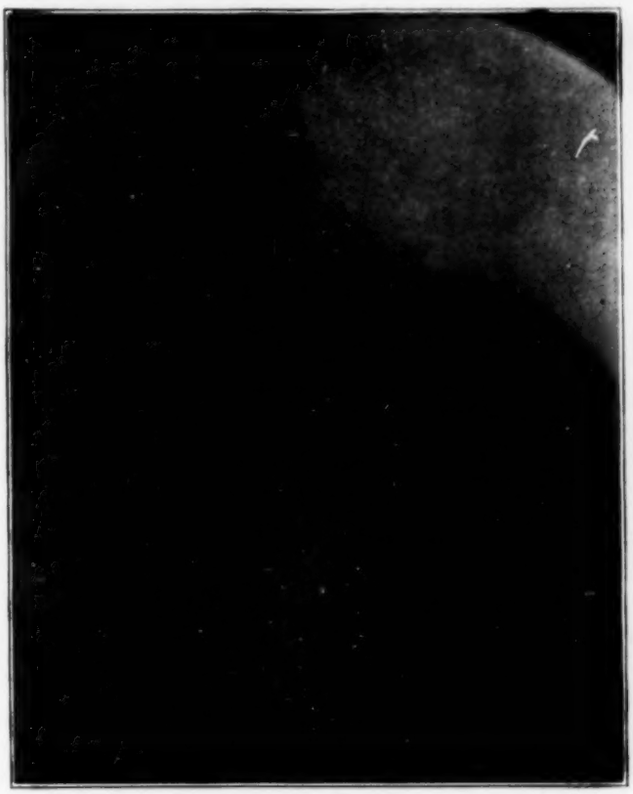

Fig. 7.—Case of ablated tubes. Bilateral salpingo-oophorectomy two years before. Speculum and intra-uterine cannula in situ. Large Thomas pessary also visible. Oxygen injected by syringe (40 c.c. used). Uterine cavity, transversely pear-shaped, plainly visible.

These results I was able to demonstrate on the extirpated uterus with adnexa attached. In one case [1] I had the opportunity to confirm by operation the clinical findings as obtained by the oxygen test:

This was a patient, aged 27, who had been married twelve years and had three children, the youngest of whom was 2 years old. Since the birth of the youngest child she believed herself pregnant twice; each time an abortion was performed. She complained of pains in the pelvis and prolonged menstrual flow. Examination by Dr. H. N. Vineberg, attending gynecologist, disclosed a moderate cystic enlargement of the right adnexa, which was slightly tender, the left side being apparently normal. The uterus was enlarged about

1. In another case, in which the condition was diagnosed as multiple fibroids, the oxygen failed to produce an artificial pneumoperitoneum. At operation both tubes were closed (double hydrosalpinx).

100 per cent. The temperature was normal, the pulse, 80. A diagnosis of diseased adnexa on the right side was made. As inflation of this uterus under a pressure of 190 failed to produce an artificial pneumoperitoneum, I felt that the left tube was also diseased and closed. Laparotomy in this case, performed six days after the oxygen injection, revealed an old standing pelvic peritonitis; both tubes were closed at the fimbriated end, that on the right side being moderately distended, while the left tube was but slightly swollen. They were both embedded in adhesions, in which the ovaries were also slightly involved. The inflation with oxygen was attended by no pain or discomfort. There had been no fresh lighting up of the process. The patient made an absolutely uneventful recovery from the operation.

While I should not advocate the use of this method in frank inflammatory conditions, this one experience has a definite value, in demonstrating its safety of application. On the specimen removed by operation I was able to repeat the oxygen injection and to corroborate the findings both as to the intra-uterine pressure and as to patency. When the pressure reached 190, the oxygen began to regurgitate through the external os. By tightening the latter around the cannula, the pressure rose to 210 and then fell slightly as the gas escaped along the sides of the instrument. This greater pressure failed to force the oxygen through the tubes or to distend them.

In order to see whether the stream of oxygen bubbles might force infective material into the peritoneal cavity, I opened the clubbed end of one of the pus tubes and repeated the oxygen injection in the same way as before. Again the same findings; no pus escaped into the basin of water into which the tube was immersed. The explanation for this is that the intramural portion of the tube lumen, normally only about 1 or 2 mm. in diameter, becomes plugged in pathologic conditions with pus or mucus. In addition, the swelling of the endosalpinx as well as that of all the coats of the tube results in practically obliterating the lumen of the tube and shutting it off from the uterine cavity. While in certain rare cases a large hydrosalpinx or pyosalpinx drains into the uterus, in the majority of cases the uterine end of the tubes remains occluded and resists the usual pressure to which the oxygen is subjected in testing for patency. When the fimbriated ends are clubbed, there is absolutely no danger of forcing them open. It requires many times the pressure necessary for the practical application of the method. Besides, the external os acts as a safety valve, allowing the oxygen to escape as soon as a certain pressure is reached.

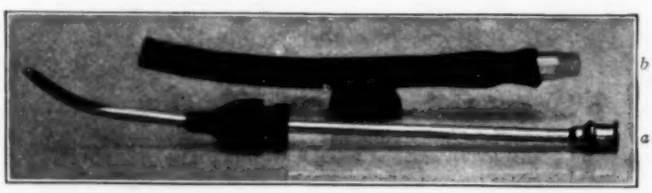

Fig. 9.—*a*, Keyes-Ultzmann cannula perforated at the tip by several small apertures with urethral rubber tip for obturation of the external os of the cervix; *b*, a piece of rubber tubing with glass connecting tube originally used in the apparatus (this is not absolutely necessary).

As far as introducing infective material from the uterine cavity into normal tubes and thence into the peritoneum is concerned, several factors make that highly improbable. One is that the cavity of the body of the uterus is in most cases free of infection. Pus or mucus, if present, is more likely to descend from infected tubes. When the uterine discharge is frankly purulent, the method is not to be used. Against this theoretical objection is the practical fact that in none of the seventy cases has there been such an occurrence.

In the nonpatent cases one may also use thorium or bromid as a control. The citrate thorium solution or sodium bromid solution may be injected into the uterus, and under obturation the roentgenogram may be made. I did this a few times in the earlier experiments, but have been able to dispense with it in my later work.

TECHNIC

The technic of the procedure is very simple. The instruments needed for the intra-uterine injection are (1) a metal cannula (Keyes-Ultzman type) perforated at the tip by several small apertures (Fig. 9); (2) a tenaculum (bullet) forceps; (3) a uterine sound; (4) a dressing forceps; (5) a bivalve vaginal speculum (Graves type), and (6) an oxygen tank connected with a water bottle. The rubber stopper is perforated at three points through which bent glass connecting tubes pass into the bottle; one of these glass tubes connected with the oxygen tank dips down below the water level. The two other glass tubes dip down for 1 or 2 inches, and do not reach the water level. One of these is attached by rubber tubing to a mercurial manometer and the other is attached in the same way to the metal cannula. In order to determine the volume of oxygen gas released from the tank, it is allowed to pass through the water bottle in a stream of discrete bubbles. These should not exceed 300 per minute. The actual amount per minute can then be measured by displacing an equivalent quantity of water from a graduated bottle into another.

It will then be seen that, for example, the gas displaces from 200 to 250 c.c. of water per minute. The same rate is then maintained in the intra-uterine injection. The water bottle that is connected with the oxygen tank contains hot boiled water or some mild antiseptic solution.

The cervix is exposed by means of the speculum; the vagina is carefully wiped clean and the cervix is cleansed dry and painted with tincture of iodin. If there is any uncertainty regarding the direction of the uterine cavity, it may be determined by passing the sound. The cervix is steadied with tenaculum forceps grasping its anterior lip. The oxygen, which has been released from the tank and regulated, is now allowed to pass from the water bottle through the glass and rubber connecting tubing to which the metal cannula is attached. By pinching the rubber tubing near the cannula one can make sure that all the joints are air tight. The mercury immediately rises in this case. If there is some leakage between the oxygen source and the cannula, the pressure will be negative. This is a very important point to be observed. Having made certain of the pressure, the air valves in the manometer are opened and the catheter is then inserted into the uterine cavity to a point well beyond the internal os. This is done so that there is no immediate escape back along the cervical canal and out into the vagina. The rubber urethral tip, placed ordinarily from 1½ to 2 inches away from the cannula tip, is then fitted into the external os, insuring better obturation. This is not essential in the nulliparous intact cervix, but is required in the irregular patulous external os resulting from previous operations or from lacerations attending childbirth. The air valves are now closed. Within a few

seconds after the oxygen enters the uterine cavity, the pressure as noted in the mercury manometer will rise; within from one half to three quarters of a minute in the patent cases the mercury reaches its maximum point. It then fluctuates for a few seconds or drops rather sharply from 10 to 30 points, maintaining the last level more or less for the rest of the time. There may be a slight audible escape of oxygen from the external os in the cases of patent tubes, but as a rule there is none till the cannula is removed, when slight regurgitation is present.

In the nonpatent cases, the pressure usually rises steadily for three quarters of a minute to a minute or longer, and then drops sharply as the gas regurgitates into the vagina. As the time required for sufficient oxygen to pass into the abdomen where it can be detected by fluoroscopic examination is one and a half minutes, the cannula is not withdrawn till this time limit is reached. If the pressure reaches 200 mm. in one minute, it is well to open one of the air valves (needle valve) to prevent it from mounting higher. In all our patent cases this high level was not reached.

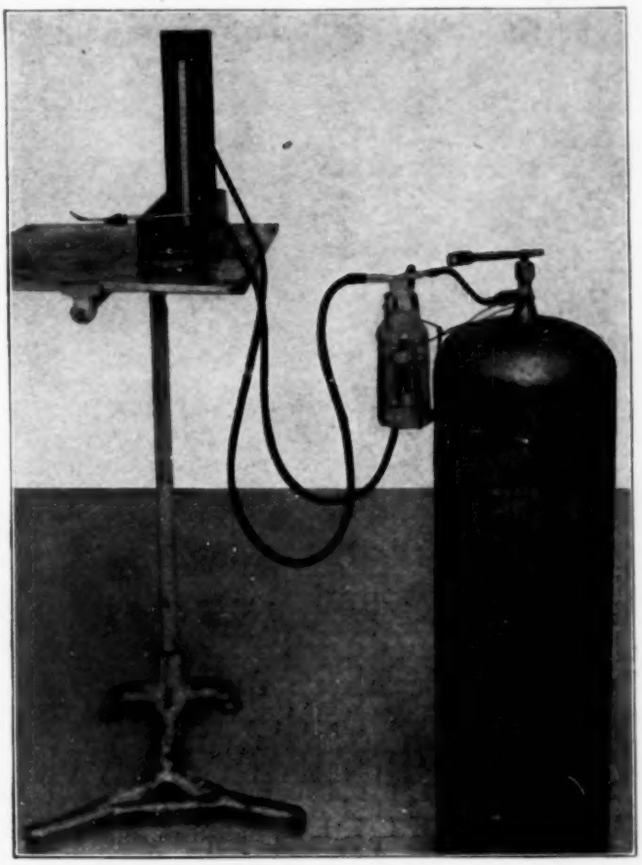

Fig. 10.—The apparatus set together. The same rate of flow of oxygen as previously determined by displacing water is maintained before and during the intra-uterine oxygen inflation. The mercurial manometer may be of the standard type, as illustrated here, or it may be of the Tycos type, and can then be inserted directly into the rubber stopper of the water bottle.

The intra-uterine gas pressure has been a valuable adjunct in checking up the time required for the gas to pass through the tubes and reach the peritoneal cavity. In our earlier cases we had decided on a three-minute interval as being necessary. In that time from 750 to 850 c.c. were released from the oxygen tank. We had no way of telling when the gas actually passed through the fallopian tubes. The symptoms were naturally accentuated. The pneumoperitoneum was excessive. A liter of oxygen was not necessary when a quarter of a liter was just as valuable for the purposes of establishing the fact of patency. With the manometer attached to the water bottle we can decide, knowing the rate of flow beforehand, how much we wish to inject into the abdomen. From the moment the pressure falls, we allow the gas to flow for from one-half to one minute, and can estimate the quantity used with reasonable accuracy, allowing for an error of 50 c.c., which for practical purposes is unimportant.

Various types of pressure devices were tried to estimate intra-uterine gas pressure. The mercury manometer of the standard type was finally adopted. For this advice I am indebted to Dr. Arthur J. Bendick, associate roentgenologist to Mount Sinai Hospital. This was particularly important, because of the theoretical possibility of air embolism resulting from too great pressure which might force the oxygen into the blood vessels. In none of the first group of cases, in spite of the absence of accurate control, did such an accident occur. It has been clearly demonstrated that oxygen, as used in this method, does not cause embolism.

In the first group, ten patients were reexamined two or three times because they had had minimal amounts of oxygen. Most of these were found to have patent tubes when a sufficient volume of oxygen under pressure was injected. When the pressure test was adopted, it became unnecessary to repeat the examination in the negative cases except when in a nervous patient it had to be interrupted. This happened in one case; and on reexamination the patient, being reassured, submitted to the complete test. She then proved to have patent fallopian tubes. It is a good rule to repeat the test at least once in the nonpatent cases in order to check up the result of the first examination.

In the positive patent cases, the pressure need not exceed 40 mm. The average pressure is from 60 to 80; occasionally the pressure rises to 100 or more before the oxygen will pass through the uterine ostium of the fallopian tubes. When the pressure reaches 150 or more, the likelihood is that the tube lumen is closed completely or stenosed, but not necessarily in every case. A pressure of 200 is tolerably certain to be due to closed tubes. *Fluoroscopy, however, should always be employed to check up the partially stenosed cases, as sometimes oxygen will succeed in escaping into the abdomen, though the pressure required to force it in is comparatively high.*

While the pressure gage as studied in the second series of thirty-seven cases is an excellent indication of patency of the fallopian tubes, it is well always to examine the patient with the fluoroscope. It occasionally happens that with the greater pressure a slight amount of gas succeeds in entering the peritoneal cavity and reaching the subphrenic space on the right or left side, where it can be detected by the roentgen ray.

In the positive cases, that is, when the tubes are patent, the oxygen will be seen as a clear space below the diaphragm, most often on both sides, but occasionally on one side only. The space varies, depending on the volume of oxygen injected. In the average case in which from 150 to 250 c.c. is used, this clear

space below the diaphragm varies between one-quarter to 1 inch in depth. The diaphragm appears as a transverse septum above the dense liver shadow on the right side and over the pale stomach margin on the left. It is unmistakable, and is readily seen when the patient breathes deeply. In all our cases in which we have made roentgenograms the finding was always confirmatory. Stout patients require a somewhat greater amount to allow for the density of the abdominal wall.

The whole examination is complete within five minutes. When the minimum volume of oxygen has been used, that is, from 100 to 150 c.c., the symptoms are negligible. There is the slightest discomfort around the diaphragm, and slight sticking pains referred to one or both shoulders. The patient dresses herself and is able to go home with comfort, and performs her duties as though she had had a simple cystoscopy. When, however, more gas has been used, the symptoms may be somewhat annoying. In such cases it is well for the patient to lie down for a few hours on reaching home, with the foot of the bed elevated (moderate Trendelenburg posture).

In the negative cases, that is, when the tubes are occluded, no artificial pneumoperitoneum results. These patients have no discomfort after examination, and have none of the referred pains in the shoulders or about the diaphragm.

In none of the cases are there pains in the pelvis following the intra-uterine oxygen injection. A little bloody oozing for a few minutes follows a withdrawal of the cannula, particularly in cases just before or just after the menstrual period. It is well, therefore, to make the examination about ten days after the menstrual period.

RESULTS OF EXAMINATION

Altogether seventy cases were examined by the method of intra-uterine oxygen inflation; thirty-three without the control of the manometer, and thirty-seven with the manometer. In the first group various quantities of gas were used to establish particularly the minimum amount required to produce an artificial pneumoperitoneum without, however, the annoying symptoms which would destroy the usefulness of the method as a diagnostic aid. Various types of sterility cases were tested. Some were primary sterilities, the marriage dating back from one to twelve years or more and in which no operations were performed either to relieve the condition or for tubal, ovarian or uterine disease. Some of the patients had had one or several curettages for the relief of sterility; some for alleged miscarriages. A few had had one child and became relatively sterile for a number of years. A few cases in which it was definitely known that one or both tubes were ablated on account of pyosalpinx were used as controls to check up the diagnostic value of the method. A few patients had had plastic operations on the cervix for the cure of primary sterility.

INDICATIONS FOR THE APPLICATION OF THE METHOD

The method is indicated:

1. In all cases of primary sterility in which all factors except that of tubal disease may be excluded. Here it has a definite prognostic as well as diagnostic value.
2. In cases of primary sterility in which the patient is known to have passed through a pelvic infection of gonorrheal origin.
3. In cases of primary sterility in which the patient had peritonitis of appendicular origin.
4. In cases of relative sterility in which the patient had a pelvic infection following childbirth or abortion, particularly when induced.
5. In cases of one child, sterility without the definite history of pelvic infection.
6. In cases in which it had been necessary to remove one whole tube and part of another for hydrosalpinx or pyosalpinx (conservative surgery).
7. After unilateral ectopic pregnancy to determine the patency of the residual tube.
8. After cases of salpingostomy for the cure of sterility of tubal origin to demonstrate the success of the operation which was calculated to effect open tubes.
9. After sterilization by tube ligation to test the patency of the tied or severed tubes.
10. After multiple myomectomy to make certain that at least the uterine ostium of the tube has been left intact.

CONTRAINDICATIONS

The method is not to be used in the presence of any acute subacute pelvic infection, nor in the presence of purulent diseased bartholinian glands, urethra, vagina or cervix.

FINDINGS IN SEVENTY CASES IN WHICH EXAMINATION WAS MADE FOR PATENCY OF FALLOPIAN TUBES

First Series: Cases examined without pressure control				33
A. Absolute sterility			25	
(a) Patients previously operated on		8		
Tubes proved patent	5			
Tubes proved nonpatent	3			
(b) Patients not previously operated on		17		
Tubes proved patent	10			
Tubes proved nonpatent	7			
B. Relative sterility			8	
(a) Patients previously operated		4		
Tubes proved patent	1			
Tubes proved nonpatent	3			
(b) Patients not operated on		4		
Tubes proved patent	3			
Tubes proved nonpatent	1			
Second Series: Cases examined with pressure control				37
A. Absolute sterility			10	
(a) Patients previously operated on		8		
Tubes proved patent	2			
Tubes proved nonpatent	6			
(b) Patients not operated on		5		
Tubes proved patent	5			
Tubes proved nonpatent	0			
B. Relative sterility			27	
(a) Patients previously operated on		15		
Tubes proved patent	12			
Tubes proved nonpatent	3			
(b) Patients not operated on		12		
Tubes proved patent	9			
Tubes proved nonpatent	3			

The causes of sterility are too often obscure and undetermined. It appears, however, that at least the mechanical factor of patency should be possible of determination in most cases. The method of intra-uterine oxygen inflation with the production of an artificial pneumoperitoneum obviates the necessity of surgical exploration and is especially serviceable in the obscure cases.

261 Central Park West.

ABSTRACT OF DISCUSSION

Dr. John O. Polak, Brooklyn: Dr. Rubin suggests a most ingenious method to establish the patency of the tubes. It is, of course, along the same lines as the introduction into the uterus and tubes of argyrol under pressure, and the use of thorium. I have used both these methods and have discarded them, as they gave very little information, except pictorial. I am not convinced that it is a safe procedure to inflate the uterus and tubes under the pressure necessary to introduce

oxygen into the peritoneal cavity by way of the tube and produce pneumoperitoneum. Again, the irritability of different uteri must be considered. In some women simple manipulation of the cervix or the introduction of anything into the cervix will cause most severe uterine reaction and no one has ever told us how to select the individual case. That of itself would prohibit the general use of this method, although it certainly has very many apparent advantages. When sterility exists, we can do a great deal by a proper investigation of the forces that produce sterility. Among 687 sterile women examined, 400 had tubal disease. In many of these cases of one-child sterility, the woman denies infection, yet she has had a parametritis, a pelvic peritonitis and a perisalpingitis. It is only in the straight gonococcal cases, without any mixed infection, that regeneration is possible. In sterility the two chief causes outside of the male, are endocervicitis and the infections involving the tube either from the inside or the outside. We can follow that up very well by the aspiration of the ejaculated semen at different periods after copulation and at different locations, and if we find living spermatozoa in the uterus, it is reasonable to suppose the existence of a tubal or ovarian condition which justifies abdominal section. With such a history it would be safer to do abdominal section than to inflate the tubes or uterus with gas.

DR. ISADOR C. RUBIN, New York: The objections raised by Dr. Polak are not unknown to me. These were the very objections we had, but they were overruled by actual experimentation. About the irritability of the uterus, the vast majority of these patients tolerated the method very well. One very nervous woman could not stand the method on first trial, but she did on second trial. The method is no more of a procedure so far as the tolerance of the patient is concerned than is cystoscopy. The bladder is no more irritable to the introduction of a cystoscope than the uterus is to a sound. Of course, there are cases in which you will not use that method, but even in these cases the method is absolutely safe. Of the safety of the method I am thoroughly convinced. I do not recommend it in cervices pouring out pus, or when there is much fever, nor when there is pelvic infection. There are cases in which it is impossible even to go in for the spermatozoa, because the method is not tolerated by the uterus. As soon as the inflation reaches the point where the pressure overcomes the tight slit in the uterine end of the tube, the pressure drops from 60 or 80 to 40 or 30 or even 20. The amount of pressure required is not so enormous. It is surprising how much the uterus can stand. The cervix acts as a safety valve. I feel that the method has a scope.

Paid Dispensary Service.—The time is coming, and may not be far distant, when hospital staff physicians will receive compensation for their professional services to so-called free patients, not because they have not given their best service in the past, but because the public demands a greater service than doctors are able to give freely and at the same time earn their livelihood. The patient who, by reason of circumstances, is obliged to seek free medical advice is entitled to the best treatment that can be provided, not alone for his own sake, but for the sake of the community, which is thus spared the danger from spread of disease, and from the necessity of caring for dependent individuals.—Lucy C. Catlin, The Hospital as a Social Agent in the Community.

THE USE OF SATURATED SALT SOLUTION INTRAVENOUSLY DURING INTRACRANIAL OPERATIONS

PRELIMINARY REPORT *

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AND
GEORGE W. BELCHER, M.D.
Intern in Surgery, Barnes Hospital
ST. LOUIS

It is a fundamental principle of intracranial surgery that if a dura is under tension above the normal it must never be opened until the pressure has been reduced. Such a condition is encountered in traumatic cases in which there has been contusion and laceration of the brain, and in cases of brain tumor. If the dura is opened in such cases without reducing the pressure, the brain cortex often ruptures and very serious damage may result. The method we have practiced for a good many years to reduce this pressure has been to withdraw cerebrospinal fluid. Whenever possible the fluid is removed by ventricle puncture, as removing it from the spinal meninges is a dangerous procedure attended by a considerable mortality in this type of case. In fracture cases the ventricle puncture offers no difficulty, and one is virtually always able to reduce the pressure; but in tumor cases, especially those above the tentorium of the cerebellum, this may be impossible, as the ventricle may be compressed and contain no fluid. Under such circumstances, up to the present time we have been obliged to open the dura while still under tension, and serious trouble has resulted frequently from the protruding brain.

Tumor removed from Patient I. N.

Recently Weed and McKibben described the result of experiments on animals when saturated salt solution (35 per cent.) was injected intravenously; they found that as a result of the dehydration of the tissues the brain shrank in volume. They also observed no untoward effects on their animals. The method seemed to offer a means of reducing cerebral edema, a very common accompaniment of even the most gentle manipulation in the intracranial cavity.

In a recent tumor case (I. N., Surgical No. 8704) presenting marked pressure symptoms, a right sided subtemporal decompression was undertaken. The patient was in no condition to stand an attack on the tumor itself. The dura, on being exposed, was found enormously tense. Puncture into the inferior cornu of the right ventricle resulted in a dry tap. Ventricle

* At the meeting of the American Neurological Association in New York, June 2, Dr. Harvey Cushing presented a paper on experiments in the use of saturated salt solution for reducing brain volume. This paper had been written before that meeting but had not been sent to the publishers.

puncture into the left ventricle yielded a few drops of fluid, but not enough to affect the pressure. The dura was opened rapidly, but in spite of an immediate closure of the muscles the cortex ruptured at several places. The patient did not clear up and was stuporous, as was to be expected. He was therefore given 100 c.c. of saturated salt solution intravenously, about 1 c.c. per minute. The result was startling. Before 15 c.c. had been run in the patient brightened up, answered questions and showed marked signs of improvement. This improvement lasted about twelve hours, when the patient again relapsed into a semicomatose condition. On three successive occasions, administrations of the saturated salt solution improved the patient. After the third injection the patient improved steadily. Daily examinations of the blood to determine whether or not the red corpuscles had become more fragile were carried out at the suggestion of Dr. Marshall, but no change was noted. The fragility never varied beyond normal limits, being always between 0.35 and 0.4 per cent. The blood pressure during the first injection rose rather alarmingly from 150 to 185. The patient within a few minutes expressed a desire to void, and the diuretic effect of the salt was quite striking.

The subtemporal decompression wound sank in so that what had been a tight, bulging hernia became a marked concavity. Dr. Belcher urged me to make use of this method during an operation. It seemed justifiable to try the method in a case in which the intracranial pressure could not be reduced by ventricle puncture. The case of I. N. seemed an ideal one. During the course of the operation the salt solution was injected and reduced the intracranial pressure so that a tumor of considerable size in the temporo-occipital region could be removed. The patient made an uneventful operative recovery.

We have used the solution in the wards to control cerebral edema, and believe that the solution has decided uses for this purpose. Our observations are, however, too few to justify more than mere mention of them.

We have reported this one instance of the use of salt during operation because we believe it offers a method of dealing with one of the most difficult groups of brain tumors, namely, those in which the ventricles have been collapsed by the tumor.

Until we know whether there are any dangers and what they are in the use of salt in such concentrations it should be used guardedly. We are at present conducting an investigation on animals to determine this and also to determine if possibly other solutions may be as efficacious but less harmful.

We have made this preliminary report because we feel that it opens up great possibilities. But we feel that the method must be subjected to severe tests and its limitations determined before it can become a recognized method in intracranial operations. The method may possibly find application in cases of increased brain bulk when the skull is closed, but that its use in the closed skull may be attended by some danger is suggested by a statement of Weed and McKibben's that they found some histologic changes when salt was injected and no trephine opening had been made.

Instinct and Diet.—Instinct fails civilized man in respect both of the quality and the quantity of his food.—*Clin. J.*, July 14, 1920.

POSTDIPHTHERITIC PARALYSIS OF THE RESPIRATORY MUSCLES

REPORT OF CASE TREATED BY PROLONGED ARTIFICIAL RESPIRATION *

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ST. LOUIS

The paralyses following diphtheria are essentially temporary in character, and complete restoration of function is to be expected within a relatively short period of time. When, however, there is extensive involvement of the respiratory muscles, death by suffocation is very likely to occur before recovery from the paralysis has taken place. An additional factor rendering the prognosis even more grave is the myocardial involvement so frequently present coincident with the multiple neuritis. Respiratory difficulties of a mechanical nature serve further to embarrass the damaged heart.

If, in the case of a patient suffering from these serious sequelae of diphtheria, the respirations could be maintained by artificial means until the respiratory muscles had once more regained their function, one of the possible causes of death would be eliminated and the danger of death from cardiac failure somewhat minimized.

The case here reported demonstrates the practicability of applying artificial respiration more or less continuously for a long period of time to a patient suffering from paralysis of the muscles of respiration.

REPORT OF CASE

Rosie W., aged 10 years, was admitted to the St. Louis Children's Hospital, Jan. 3, 1920, six weeks after a severe attack of pharyngeal diphtheria. The physician attending the child, at the time of the attack, had administered 10,000 units of antitoxin intramuscularly. About one week following the attack of diphtheria the child began to show signs of palatal paralysis. The muscles of the eyes, extremities, back and neck subsequently became paralyzed.

On admission to the hospital the patient was unable to move the legs or body or to hold up her head. She could swallow only with the greatest difficulty. There was almost complete aphonia, and much difficulty in expectorating mucus from the throat. The heart was enlarged, the left border being 3 cm. outside the nipple line. Electrocardiographic tracings showed evidences of myocardial involvement. There was moderate dyspnea and slight cyanosis. The abdomen retracted during inspiration. The temperature was normal, the throat culture negative for diphtheria. The urine contained a small amount of albumin and a few hyaline casts.

The child's respiratory difficulties increased. No motion of the diaphragm could be detected, and ultimately the intercostal muscles and accessory muscles of respiration became involved. Cyanosis deepened and the child became semicomatose. There were no signs of pneumonia or of obstruction in the air passages. It was evident that death from suffocation would result within a very short time unless some means of artificial respiration were employed.

At Dr. Erlanger's suggestion we made use of an apparatus described by Gesell and Erlanger.[1] This apparatus was designed to convert a continuous air current into an intermittent one of any desired rate and volume and has been used extensively in physiologic laboratories for administering artificial respiration to animals. A nitrous oxid mask connected to the apparatus was applied closely to the child's face. There was at first no cooperation, partly on account of the child's semicomatose condition. Within a few moments

* From the Department of Pediatrics, Washington University School of Medicine and the St. Louis Children's Hospital.

1. Gesell and Erlanger: Am. J. Physiol. **23**, Proc. p. xxxiii, 1914.

however, the slight cooperation necessary was obtained and air was forced into the lungs. The effect was almost immediate; cyanosis disappeared, and the patient became sufficiently conscious to cooperate well. The rate of respiration of the machine was adjusted to correspond with the child's respiratory efforts. After a period of about ten minutes the child fell asleep and the mask was removed. Cyanosis slowly developed again and was again relieved by a period of artificial respiration. The artificial respiration was kept up during most of the time that the child was awake. It was possible to discontinue it for short periods when she dropped off to sleep. The artificial respiration was kept up at intervals for five days, and at the end of that time the respiratory muscles had so far regained their function that the artificial respiration was necessary only at relatively infrequent intervals. It was not necessary at all when the child was perfectly quiet; but after any exertion, such as coughing or after feeding with the nasal tube, it was necessary to apply the respiration apparatus for a short period. The function of the respiratory muscles steadily improved, and at the end of a week it was possible to dispense entirely with the artificial respiration.

The child was discharged from the hospital, January 31, in excellent condition. She is now (six months later) well and apparently normal in every way.

COMMENT

In view of the fact that the majority of patients with postdiphtheritic involvement of the respiratory muscles die, it would seem distinctly advisable to attempt some form of artificial respiration in every severe case. Other means than the one adopted might well be used. The possible danger of a resulting aspiration pneumonia should not influence one against the employment of such methods when the paralysis of the respiratory muscles is so complete that death from suffocation is certain, unless mechanical aid is employed.

TEMPERATURE FACTOR IN DETERMINING THE AGE OF MATURITY AMONG THE ESKIMOS

VILHJALMUR STEFANSSON
NEW YORK

It has been generally supposed that among the peoples of the earth the age of maturity comes earliest in the tropics, and increases gradually as one goes northward through the temperate and eventually into the polar zone. It has been presumed that a similar condition would be found in going south from the equator toward the southern pole.

If the age of maturity increases with fair regularity as one goes north through Europe from Sicily to Lapland, it would seem reasonable that this has a direct connection with the decrease in temperature, and the assumption has accordingly been generally made. Tables, the sources of which are not always unassailable, have been published to show a direct connection between the age of maturity and the temperature.

But in North America this rule, if it be a rule, has a striking exception. It is not rare among Eskimo women that they have their first child at the age of 12; and children born before the mothers were 11 have been recorded in places where the age of the mother can be in no doubt, because of the fact that her birth had been recorded by a resident missionary.

Cases of this sort were first called to my attention by Dr. H. R. Marsh, a medical missionary of the Presbyterian Church, long resident at Point Barrow, Alaska, about 300 miles north of the arctic circle. It is only where missionaries are stationed that reliable records are obtainable, for the Eskimos themselves do not take any interest in their own age or the age of their children as measured in years, and it is seldom possible to get a reliable estimate of how old a person is unless his birth can be checked up by comparison with some known visit of an explorer or whaling vessel or some event of that sort.

Since the early maturity of Eskimo girls was first pointed out to me by Dr. Marsh, I have had a chance to observe a considerable number of Eskimos through a period of ten years, and in many cases when it has been possible to check up the age correctly I have found the age of maturity to be about as given by him for Point Barrow (tenth to thirteenth year). But I have a general impression that in the places where I have been, the age of maturity is now getting higher gradually.

When I first learned of this low age of maturity among people living in a cold climate, I thought I had found evidence for thinking that the factors of racial difference, or possibly kind of food and manner of life, had much more importance than previously considered in determining the age of maturity, and that the general correspondence, if there were such, between the increasing age of maturity and decreasing temperature as one goes north through Europe would be found to be partly a matter of accident. It is a curious thing that during twelve years of association with the Eskimos, during which time I have spoken and written a great deal about their manner of life, it never occurred to me until some two or three months ago that their early maturity is strictly in accord with the supposition that the hotter the environment, the earlier the maturity.

For to all intents and purposes the typical Eskimo in the country known to me lives under tropical or subtropical conditions. During the winter of 1906-1907 I recorded the estimate that the average temperature within doors of the Eskimo house in which I lived at the mouth of the Mackenzie River was a good deal above 80 F., and frequently rose to 90 F.[1] From the point of view of those who spent most of the winter indoors in that house, it was a matter of no consequence that the temperature was perhaps 40 or 50 degrees below zero outdoors, when the outdoor air seldom came in contact with their bodies. Even when they go out, this cold air does not have a chance to come in contact with the body, except for the limited area of the face. When an Eskimo is well dressed, his two layers of fur clothing imprison the body heat so effectively that the air in actual contact with his skin is always at the temperature of a tropical summer. It is true, therefore, that while an Eskimo is indoors his entire body is exposed to a local climate as warm as that of Sicily, and when he is outdoors he carries that climate about with him inside his clothes and applicable to 90 or 95 per cent. of his body area.

If it be supposed that early maturity in such a country as Sicily is due to the direct effect of heat upon the body, in some such way as when heat brings early maturity to flies cultivated under experimental conditions, then we see that on this theory the Eskimo

1. Bartlett estimates the temperature within doors in winter of the houses of the Eskimos and Eskimo-like people of northeast Siberia at 100 F. (Bartlett, R. A., and Hale, R. T.: Last Voyage of the Karluk, Boston, 1916, p. 211).

has every reason to mature about as early as the Sicilian. The same conclusion follows if we consider that early maturity is due to the acceleration of the processes of metabolism due to the strain on the body in adjusting itself to excessive heat. When an Eskimo comes into such a house as the one in which I lived in 1906-1907, he strips off all clothing immediately on entering, except his knee breeches, and sits naked from the waist up and from the knees down. Cooking is continually going on during the day, and the house is so hot that great streams of perspiration run down the face and body of every inhabitant and are being continually mopped up with handfuls of moss or of excelsior, or, according to later and more civilized custom, with bath towels; and there is drinking of cup after cup of ice water. We have, therefore, produced locally within doors the same conditions that may be supposed to accelerate the metabolism of a dweller under the tropical sun.

When flies are being experimented on in an incubator, the same results would presumably be arrived at in Africa and Norway if the temperature within both incubators is kept between 80 and 90 F. And if one set of flies lives in an incubator at 80 F. in Norway and another set lives at 80 F. outdoors in the Hawaiis, the temperature factor should in each case prove equally potent in promoting growth or decay. Why may not the same apply to human beings, the incubators in the case of the flies being replaced by the houses and cold-proof clothes in the case of the Eskimos?

The effect of the overheated houses is more direct among the Eskimos on the women than on the men, for they remain indoors a larger part of the winter. So far as the warmth of the body outdoors is concerned, the conditions are even among the sexes, for they are equally warmly clad.

In countries like Europe where the clothing, whether it is of cotton or of wool, is generally porous, forming a poor protection against the weather and especially against a cold wind, and where the houses are similarly badly adapted for shutting out cold, and where temperature within doors is controlled by fires that, for one reason or another, cannot be uniformly maintained, it is generally true that the farther north you go the colder the air that actually reaches the bodies of the people and has an effect upon their life processes. In North America among the Indians, as one goes north from Mexico toward the Arctic Sea similar conditions generally prevail, and the farther north the Indian, the colder the average temperature of the air that is in contact with his body throughout the year. The most northerly of the Athabasca Indians, for instance, appear to suffer a great deal from cold.

One winter I traveled about for several months with the Dog-Rib and Yellow Knife Indians. I found they were so poorly clad that during the day when outdoors they had to be continually moving, for if they stopped for even half an hour at a time they became so chilled that their hands became numb. These Indians are really in continual fear a large part of the winter of ever ceasing from active motion when outdoors. In the evenings their wigwams are cheerful with a roaring fire, but by no means comfortable, for while one's face is almost scorched with the heat of the flames one's back has hoar-frost forming upon it. At night the Indians go to sleep under their blankets, covering up their heads and shivering all night. It is, therefore, in accordance with the theory that the age of maturity increases with the increased cold of the air applied directly to the body, to suppose that the statements of Hudson's Bay traders and others in the North are reliable when they say that the common age of maturity of Indian girls is as high as or higher than that of north European whites.

But when one goes north from the Slavey and Dog-Rib Indians to the Eskimo country, the conditions suddenly change. One now comes in contact with a people that has a system of living almost perfectly adapted to a cold climate, while the northern Indians have a system almost unbelievably ill adapted to the conditions in which they live. Here, accordingly, there is a shift back to a subtropical early age of maturity which at first seems to be a direct contradiction of the accepted theory, but which, when properly understood, is in accordance with it.

American Geographical Society, Broadway at One Hundred and Fifty-Sixth Street.

INOCULATION AGAINST HAY-FEVER

AN EXPERIENCE, A WARNING AND A SUGGESTION

WILL WALTER, M.D.
EVANSTON, ILL.

As the season for the genuine (ragweed) hay-fever (pollinosis) approaches—August 15 in this region—physicians may be interested in a recital of our experience. Pursuing the plan of preliminary desensitization by graded and gradually increasing dosage, aiming at immunization, I have for several seasons tried out various extracts. This was first done with the fluid-extract of ambrosia—the whole plant—concurrently, as it happened, with the original work of Holbrook Curtis, some years ago. With this extract some twenty persons were treated. The only appreciable effect was a delay of about five days in the incidence of the attack.

Of late years I have employed the pollen extracts as developed commercially. In 1919 we were provided with more definitely prepared and graduated solutions to be used under skin test control. So far as I could tell from the limited experience, the effects were much the same as I had had with the plant extract in the original tryout, namely, a delay in incidence and a modification of the early severity. However, it has seemed to me all along that sensitization to ragweed was increased with many of the inoculated subjects after the first few days of the attack; that these patients suffered more during the height of the attack when the massive pollen contact came, than those who did not have the preliminary treatment.

The whole scheme as evolved by the commercial houses, some of them acting on the advice of interested clinicians, is based on the postulate that preliminary inoculation with the pollen extract at intervals will lead to the evolution of antibodies—bodies anti to the pollen protein—to such a degree that, at season, the pollen protein will be without effect on the mucous surfaces.

My experience teaches that in this particular protein the phenomena of desensitization does not follow the usual course of the bacterial protein, so far as symptoms show. We must, therefore, proceed on slightly different lines. This may be done without violating the fundamental principles of inoculation.

It is an interesting observation that the early mild pollinoses, namely, those from rose, timothy, daisy and the like—the so-called "rose colds"—are helped by inoculations of their respective proteins.

We have a different problem with ragweed, and search must be made to find reason for this failure to prevent hay-fever and for the ill effects of preseason inoculation.

The pollen of ragweed is a microscopic bur—a bur with more penetrating qualities than other pollens. It is capable of breaking the surface of the thin mucosa. We know that mass contact is more likely; that the dosage at season is thus much larger than of other pollens both from the mass and from the break in the membrane, and that the ragweed protein is more toxic than that of other pollens when split up by the sensitized subject. Then we have to deal not only with this massive dosage, but with the secondary infections which naturally follow on the injury to the mucosa from these more penetrating burs and the greater irritation. Local conditions grow worse as the season advances.

It is to be feared, therefore, that when the mass of pollen comes, the split products go to flood tide; an anaphylatoxic poisoning results, and that preliminary inoculation cannot be carried far enough with ragweed protein to evolve antianaphylactic bodies on account of the size of the dose of ragweed protein at season. An alarming case demonstrates the point and furnishes the warning:

Mr. A. B., aged 40, who had a severe and a typical case of genuine hay-fever, was started early and went through the schedule with his immunization. The incidence of his attack was delayed, as with most patients, until about the fifth day after his attack was due. The *freedom from all signs* led me to feel that at last the great desire had been achieved; but to make doubly sure, the last previous dose was repeated hypodermically on the fifth day of the expected attack. Within ten seconds there was violent sneezing which quickly developed into paroxysms. In about five minutes the patient went into profound anaphylactic shock. The blood pressure dropped to 80. The pulse was hardly palpable. The patient was cyanotic, asthmatic, and coughed glairy mucus. This altogether alarming state lasted about two hours.

Here was a case in which a previously harmless dose produced anaphylaxis when added to the local pollen absorption.

With this experience before me, I gave no more large doses at season and am withholding all preseason inoculation with ragweed pollen protein.

It being a well established principle that anaphylatoxic poisoning is best met by increasing blood alkalinity and by administration of minute doses of homologous protein, we adopted an alkaline dietary and regimen, and the frequent use of fractional doses of the pollen protein hypodermically in all cases at season.

The results so far have been universally encouraging.

Occupational Tuberculosis.—Among the various types of workers liable to industrial tuberculosis, grinders and other users of abrasive materials are recognized as being among the worst sufferers; and it has generally been assumed that the mineral particles thrown into the air from the abrasive material itself are as important factors as the metallic dust from the object subjected to the grinding or polishing treatment. Yet, curiously enough, so far as we are aware, no one has hitherto called attention to the peculiar hazard which menaces the workers engaged in the manufacture of the abrasive materials themselves.—*Public Health Reports*, May 30, 1919.

Clinical Notes, Suggestions, and New Instruments

A CASE OF SYPHILIS AND HERPES ZOSTER

MIGUEL LAVANDERA, M.D., NEW YORK
Assistant Cystoscopist, French Hospital

In an editorial on the relationship between herpes zoster, syphilis and chickenpox,[1] these statements were made: "The significance of herpes zoster is still a matter for speculation. While technically a disease of the skin, the condition is one that has always been of interest to the neurologist and to the general practitioner." Hence the report of this case.

REPORT OF CASE

C. A., a man, aged 32, single, mechanic on board ship, complained, Nov. 12, 1919, of severe pain in the lower lumbar region and the left side of the chest for the preceding four days. He was pale and depressed, and unable to work. There had been an initial lesion eighteen months before; he treated himself with copper sulphate. The history was of no moment otherwise.

He was muscular and well developed. The buccal mucosa was negative; the inguinal and epitrochlear lymph nodes were shotty and discrete, but not painful. The anterior aspect of the left chest, at the twelfth intercostal space, revealed a patchy group of vesicles on a red base. The chest wall surrounding the vesicles was very tender on pressure or motion. There was a smooth scar with slightly raised edges, the size of a 10-cent piece, in the dorsum of the corona at the mucocutaneous junction. Both testicles and cords, particularly the left, were considerably enlarged and hardened, but not painful. There was no fluid in either side. The left testicle bore an irregular, hard depression on the outer aspect. There was no fever. The Wassermann test was ++++.

Immediate injection of 0.4 gm. of neo-arsphenamin and 1 grain of mercury was given. Four days later the patient was free from all pain, the vesicles having disappeared. He now received a second treatment as before, sailed for Germany, and was lost sight of.

COMMENT

While this report proves no definite relation between herpes zoster and syphilis, the case is interesting in this connection because it supports the view of Brown and Dujardin, quoted in the editorial referred to.

808 West End Avenue.

CASE OF ACUTE VERONAL (BARBITAL) POISONING SIMULATING EPIDEMIC ("LETHARGIC") ENCEPHALITIS

G. B. HASSIN, M.D., AND M. S. WIEN, M.D., CHICAGO

A white woman, aged 33, was admitted, Dec. 9, 1919, to the medical service of Dr. Frederick Tice in a somnolent state. From her friends and afterward from her own confession it was found that when much despondent, the patient would take large doses of barbital. Otherwise, she had not been using this or any other drug, but was a heavy cigaret smoker. In January, 1919, a "large dose," the amount not given, rendered her lethargic for about ten days. Another similar incident took place in April of the same year. Nov. 27, 1919, she took twelve 5-grain tablets of "veronal," after which she lapsed into a somnolent state. She was removed to a hospital, which she left after four days' stay, not fully recovered. December 7, she took barbital for the fourth time, six 5-grain tablets, became lethargic, and was brought to the Cook County Hospital. On admission she was in a profound sleep from which she could be aroused with difficulty. When awakened she gave intelligent answers, and talked coherently but sluggishly, falling asleep during the conversation. The color of the skin and the visible mucous membranes was not changed; there was no cyanosis, signs of external injuries,

1. The Relationship Between Herpes Zoster, Syphilis and Chickenpox, editorial, J. A. M. A. **73**: 1445 (Nov. 8) 1919.

deformities or paralysis of the extremities. The right eye exhibited a slight ptosis and weakness of the external rectus muscle. The objects shown to her were constantly doubled in number, that is, the patient had a diplopia which she claimed was also present during the previous attacks of barbital poisoning. The respiration was 24, pulse 84, temperature 98. The tendon and mucous reflexes (conjunctival, pharyngeal) were normal; the abdominal reflexes could not be elicited; the plantar gave a normal response (no Babinski or Oppenheim). The lungs, heart, abdominal organs, urine and blood were negative. The Wassermann test for the blood was also negative; for the spinal fluid it could not be determined as the spinal puncture was unsuccessful. The temperature on the next day was 100 by rectum, pulse 88, respiration 20.

During the following days, the temperature, pulse and respiration were normal; the lethargy gradually subsided, having lasted thirteen days and following a dose of 90 grains of barbital (from November 27 to December 9). March 27, 1920, she reentered the Cook County Hospital after she had taken ten 5-grain tablets of barbital and turned on the gas with the intention of ending her life. The condition was virtually the same as recorded, except the absence of the ocular signs and the diplopia. She left the hospital after two days' stay.

COMMENT

The tentative diagnosis, before the patient's history was learned, was that of lethargic encephalitis. A typical picture of the latter, characterized by somnolence (lethargy), paralysis of some of the eye muscles, fever and general weakness (asthenia) may be caused by many other pathologic brain conditions. For instance, tumors or hemorrhages in the midbrain, especially the third ventricle, syphilitic basilar meningitis, paroxysmal attacks of sleepiness, as they occur in hysteria and epilepsy (so-called narcolepsies), postepileptic conditions, all may yield the foregoing symptoms typical of lethargic encephalitis. More or less pronounced in our case, they could, however, be interpreted only from the history and the course. The latter, as well as the history, is of great value in the differential diagnosis of lethargic states. Always acute in barbital poisoning, they are subacute in lethargic encephalitis, brain tumors, syphilitic meningitis, etc. It is advisable, therefore, in doubtful cases of lethargy, to wait with the final diagnosis of epidemic encephalitis; for being sometimes, so to speak, slow in unfolding its full and definite clinical picture, an epidemic encephalitis may mask some morbid conditions which, as this case demonstrates, have nothing to do with organic diseases of the brain.

Cook County Hospital.

AN UNUSUAL CASE OF MERCURIC CHLORID POISONING

CLAYTON MCPEEK, M.D., COLUMBUS, OHIO

Mrs. S. L., a young matron, aged 20, used a douche of mercuric chlorid to prevent conception. The syringe, of the large straight nozzle spray type, had a defective and open tip. A tablet of mercuric chlorid, of 7⅗ grain strength, was dropped through the open nozzle into the bulb and water poured in. This preparation was used so hastily that the tablet did not have time to dissolve. As a result, the tablet and water were forced into the posterior vaginal vault, the tablet remaining there.

She retired immediately, and after two hours of fitful sleep awoke, suffering violent pain in the lower abdomen and vagina, nausea, vomiting, irregular heart action and syncopal attacks. Three hours after the douche was taken I was called. A hypodermic injection of caffein sodiobenzoate was administered, after which a vaginal examination was made and particles aggregating about half a tablet were removed. Copious douches of albumin and a so-called Seiler's solution[1] were then given. Although the patient denied having taken any tablet by mouth, the antidote was given, vomiting induced, and the vomitus tested for the presence of mercury. A negative reaction was obtained.

The subsequent history is important. Within thirty-six hours a black area or line made its appearance on the upper and lower gum surfaces, extending as much as three-fourth inch to each side of the gingival margins. The teeth became loose and sore. Salivation was very marked. In the days following, the gums sloughed and the mucosa of the hard palate was partially detached. The nasal mucosa sloughed, and capillary oozing continued from the mouth and nose for a period of twelve days. From the third to the seventh day the patient could not talk. The senses of smell and taste were lost for four weeks.

The vaginal mucosa detached in large pieces. Optical examination revealed a large ulcer on the posterior part of the cervix, which persisted for six weeks.

Forty-eight hours after the douche was taken the quantity of urine excreted was 50 per cent. of normal; in seventy-two hours there was complete suppression, which continued for three full days, when 1 ounce was removed by catheter. The quantity after this time increased 1 ounce a day for four days, then to 14 and 34 ounces. Urine examination on the sixth day revealed albumin, blood cells, blood and granular casts, bladder cells and débris.

The alimentary tract began to act vigorously on the fifth day, when thirty-three stools in thirty hours were noted. Long shreds of intestinal mucosa and clots of blood were present. The bowel condition subsided in three days, after which action was induced as needed by the subcutaneous use of pituitary extract.

The treatment was at first antidotal and supportive, then eliminative.

In a general way the patient made a recovery, although after four months the urine still shows albumin and casts.

715 North High Street.

1. Oral Cleanliness, J. A. M. A. **61**: 1812 (Nov. 15) 1913.

Special Article

OBSERVATIONS ON SOUTH AMERICA

VI. GENERAL REMARKS

WILLIAM J. MAYO, M.D.
ROCHESTER, MINN.

I have been asked a number of times, Do you mean to say that all the surgeons of South America are of this high grade you speak of? I can only answer that all the work I saw was high-grade, but I saw only the best men, and not by any means all the best men. Relatively the comparison with other countries is a fair one. As I have traveled at home and abroad year after year to see surgical work and to learn surgery by direct observation of the surgeons and their clinics, I have seen only the best. And why should I do otherwise? If I wanted merely to see bloodshed, that could be seen at the stockyards; if I were looking for poor work, that could be seen at home as well as abroad. Since the object of travel is primarily self-improvement, time should not be wasted looking for things done badly and for things to criticize.

I learned much in the short time I was in South America, not only of surgical conditions as they are seen in the United States, but of the surgical complications of so-called tropical diseases. Many of the diseases are tropical in the sense that they exist as yet only in the tropics, probably because easy means of communication to other countries have heretofore been lacking. In the future we can expect them to spread from one country to another. Such diseases are to be found in the northern islands of Japan under climatic

conditions similar to those in the northern part of the United States and in Canada. There is a rare opportunity for our medical men to study these diseases in South America and to learn from the experience of the medical profession there how best to care for them. In like manner the physicians of South America may learn from us with regard to the forms or phases of diseases in North America. Exchange of professors and exchange of students will mean much to the health conditions of both countries. The medical profession of South America will be glad to undertake such cooperation. The Spanish edition of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is having a great deal of influence in establishing closer relations between the medical profession throughout Central and South America.

In trying to account for the underlying causes of the present undercurrent of unfriendliness in South America to the United States, it should be remembered that American business interests have sent emissaries to South America for the purpose of establishing trade relations that would be profitable to the United States without much regard for the manner in which the South Americans would be affected, and we certainly have been very patronizing when we have talked about the Monroe Doctrine. Fortunately, our government has men of the highest diplomatic standing representing us in South America. I had great pleasure in meeting the chargé d'affaires, Mr. William Walker Smith, in Lima, Peru; the American consul, Dr. Cameron, in Tacna, Chile; the American ambassador, Mr. Frederick J. Stimson, in Buenos Aires, and Mr. Robert Jeffery, American minister to Uruguay, in Montevideo. These gentlemen are highly respected and are doing everything possible to promote a better understanding.

Many evidences are now apparent of a new spirit in our business relations with South America. Today the great American business firms are establishing South American branches and view the trade question not only from the standpoint of the United States, but also from the standpoint of fairness to South America, with the idea of developing her resources. American methods and American labor-saving machinery are rapidly being introduced in the building of docks, railroads and industries. An example of this was shown in building the railroads in Chile. Mr. Wenceslao Sierra, one of the great railroad builders of Chile, was anxious to introduce American methods, but his people said, "We have thousands of laborers who work cheap. We do not need to consider labor." They did not see that the price for a ton of food would be much greater than that for coal to produce the same amount of energy, and that even if people worked for nothing, much of the work could be done cheaper by machinery. Mr. Sierra came to the United States and bought steam shovels and dump cars; he secured a sufficient number of skilled technicians to operate them and returned to Chile. He completed his work in advance of the specified date, and the profits on time contracts alone ran into millions of dollars.

The American motor car is seen everywhere in South America. Henry Ford may not be a great historian, but he certainly has done more than any other man for the effective transportation of the individual, for the building of good roads, for the contentment and prosperity in the rural districts, and in South America, for the improvement of the somewhat dubious reputation of the American square deal, as related to 100 cents of worth for the dollar invested. Reliable American concerns, such as the General Electric, United States Steel, American Express, Baldwin and American Locomotive, Pullman, Swift, Wilson and Armour, are gradually building up the confidence of the South American public. Large American banks, for example, the National City Bank of New York and the Boston National Bank, are establishing South American branches and a system of credit satisfactory to the merchants of South America. The genius of the American people lies in their ability to develop the natural resources of a country, and South America is the land of opportunity.

It is to be feared that the average young American, as an individual, will not have a great opportunity in South America. The exceptional man will have opportunities; but the projects to be undertaken are so vast and require such enormous capital that they can be handled only by large moneyed interests, and these must be managed by empire building men of the type of the late James J. Hill. Times in South America will be troublous for years to come; for that matter, they will be troublous in North America; but we have a great middle class which holds the balance of power and renders our institutions safe. When South America introduced compulsory education, aristocracy was doomed. People cannot become educated and remain contentedly in poverty and squalor. The safety of any country lies in the development of a contented middle class. The so-called radical party, through politics, has gained many much talked of rights, but as yet acknowledges few if any duties. Labor in South America is rapidly becoming as laborless as in other countries.

Our reception in South America by the medical profession, the people and the government officials was everywhere most cordial. The organization we represented, the American College of Surgeons, is based on principles that appeal to the Latin Americans, as they do to all right-thinking, unprejudiced men. Preliminary steps were taken to render this organization Pan-American, and the success of our mission was most inspiring.

The Latin races have high ideals and are inspired by that which appeals to their imagination. When approached on this ground they are most cordial and ready to reciprocate freely, but the United States has not heretofore approached the people of South America in this spirit. North America can appeal to South America if the appeal is based on altruism, but the present supercilious attitude must be discarded and an honest perspective of the South American people and their ideals obtained.

Denatured Alcohol.—In 1906, Congress enacted a law permitting the general use of a tax-free industrial (denatured) domestic alcohol in order to stimulate industrial purposes for which the high cost of grain alcohol was prohibitive. Denatured alcohol usually consists of 90 per cent. grain alcohol and 10 per cent. wood alcohol, thus rendering it unfit for drinking. It is being increasingly substituted for wood alcohol in many industrial uses, to eliminate the great dangers attendant on the use of the latter.—*Illinois Health News*, October, 1919.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Subscription price - - - - - Five dollars per annum in advance

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SATURDAY, SEPTEMBER 4, 1920

THE PROPHYLAXIS OF SIMPLE GOITER

The existence of endemic goiter in certain districts has long been known. The mountainous regions of the Alps, the Pyrenees, the Carpathians, the Himalayas and the Andes—places where the occurrence of abnormalities of the thyroid glands in a large number of persons native to the districts has been common in the past—are by no means the only places where goiter is noticeably prevalent. The United States also has goiter regions. For example, approximately half of the young girls examined in some of the public schools in the region of the Great Lakes show a detectable enlargement of the thyroid.

The investigations of Marine and Kimball [1] of the Western Reserve University, Cleveland, on the prevention of simple goiter in man have been referred to in The Journal on previous occasions. Their work, aided by a grant from the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association, started early in 1917 with a survey of the incidence and types of thyroid enlargement in the schoolgirls of Akron, Ohio, from the fifth to the twelfth grades, inclusive. In the course of this they studied the value of the prophylactic use of sodium iodid given in the arbitrary dose of 0.2 gm. (3 grains) daily for ten consecutive school days, repeated each spring and autumn. The latest report,[2] including the results of annual surveys over a period of thirty months and involving many hundreds of children examined and treated consecutively, indicates a striking difference between those not taking and those taking iodin. The difference is manifested both in the prevention of enlargement and in a decrease in the size of existing enlargements, i. e., therapeutic effect. It appears to have been a successful experiment on a grand scale. Here are the facts brought out in the report: Of 2,190 pupils taking 2 gm. of sodium iodid twice yearly, five have shown enlargement of the thyroid, while of 2,305 pupils not taking the prophylactic, 495 have shown enlargement of the thyroid. Of 1,182 pupils with thyroid enlargement at the first examination who took the prophylactic, 773 thyroids decreased in size, while of 1,048 pupils with thyroid enlargement at the first examination who did not take the prophylactic, 145 thyroids decreased in size.

It might be supposed that toxic conditions such as give the symptoms of hyperthyroidism would occasionally arise under the therapy instituted; but this does not seem to have been the case. An occasional child may show signs of iodid rash, which disappears promptly when the treatment is stopped. The untoward effect of such iodin idiosyncrasy is negligible. In individual cases, on the other hand, the presence of pathologic conditions may modify the usual efficiency of the prophylactic treatment.

If the simple goiter of adolescence can be prevented easily and cheaply in otherwise normal persons, it merely remains to secure public approval and systematic introduction of the procedure in those places where it seems indicated. Marine and Kimball conclude that, in the region with which they have been concerned, probably the maximum of prevention, coupled with the minimum of effort, would be obtained by giving iodid between the ages of 11 and 17 years. As thyroid enlargement is approximately six times as frequent in girls as in boys, the question of the inclusion of both sexes in systematic treatment may be debated. In any event, the Cleveland experts believe that the existing system of organization of the schools, public and private, is sufficient to handle all the details without additional aid or expense. Education of the pupils would be combined with the actual administration, so that after leaving school they could continue the treatment, if necessary. Physicians in industrial medicine could render an important service in this field.

It is becoming apparent that there is likewise a considerable incidence of simple thyroid enlargement in the fetal period and in pregnancy. These are equally amenable to the corrective influence of iodin administered in simple form as iodid, syrup of ferrous iodid, or syrup of hydriodic acid—as U. S. P. preparations. Responsibility here clearly rests with the individual and his physician; but the existence of an occasional need of iodin deserves a wider recognition than it now has. What it means in animal nutrition and how easily danger can be averted has lately been emphasized in the studies of fetal athyreosis [3] and the "hairless pig malady" of some of the Western states. With respect to dosage, further careful observation may be necessary. It is quite possible that in extremely goitrous regions, as in some of the valleys of Alaska and British Columbia, thyroid enlargement can be prevented only by larger doses of iodin; and incidentally, other clin-

1. Marine, David, and Kimball, O. P.: The Prevention of Simple Goiter in Man, J. Lab. & Clin. Med. **3**: 40 (Oct.) 1917. Kimball, O. P., and Marine, David: The Prevention of Simple Goiter in Man, Second Paper, Arch. Int. Med. **23**: 41 (July) 1918. Kimball, O. P.; Rogoff, J. M., and Marine, David: The Prevention of Simple Goiter in Man, Third Paper, J. A. M. A. **73**: 1873 (Dec. 20) 1919. Marine, David, and Kimball, O. P.: Prevention of Simple Goiter in Man, Fourth Paper, Arch. Int. Med. **25**: 661 (June) 1920.

2. Marine, David, and Kimball, O. P.: Prevention of Simple Goiter in Man, Fourth Paper, Arch. Int. Med. **25**: 661 (June) 1920.

3. Fetal Athyreosis, editorial, J. A. M. A. **69**: 43 (July 7) 1917.

ical conditions may further alter the efficiency of the treatment. In large outline, however, the problem of simple goiter seems to have been subjected to an easy solution.

THE BRITISH PROPRIETARY MEDICINES BILL

In discussing the nostrum business, THE JOURNAL has frequently pointed out that the passage, in 1906, of the national Food and Drugs Act in the United States resulted in a marked change in the claims made for package medicines. Infallible cures for consumption became mere tonic appetizers, and sure cures for falling of the womb became only female tonics. THE JOURNAL has also pointed out that in the case of American-made "patent medicines" that were sold on both sides of the Atlantic, the same false and fraudulent claims that were eliminated from the American packages after the passage of the Pure Food Law were retained in their pristine blatancy on the packages as sold in the British Isles.[1]

The British medical profession and the more enlightened part of the British laity have long recognized the need of some restrictive legislation against the nostrum evil of the British Isles. In fact, two years before the war a Select Committee on Patent Medicines was created which went into the whole subject with extreme thoroughness. The committee's labors extended over nearly two years. The report of the committee, which was published in the latter part of 1914, was discussed at length in THE JOURNAL at the time. The committee recommended several legislative enactments; but the war favored the nostrum interests, and no parliamentary action was taken on the matter. During the last year, however, there have been insistent demands that the shameful state of affairs disclosed by the Select Committee shall be abolished or at least mitigated, and on July 13 the Proprietary Medicines Bill was introduced in the House of Lords by Viscount Astor, the Parliamentary Secretary to the Ministry of Health. In general, the provisions of the bill follow the recommendations contained in the Report of the Select Committee of the House of Commons.

In its original form the bill prohibits under penalty of heavy fine or imprisonment the sale of remedies purporting to cure cancer, consumption, deafness, epilepsy, diabetes, paralysis, Bright's disease, rupture and one or two other serious ailments that are of such a nature as to be obviously out of the class of ailments that can safely be self-treated. Another provision forbids the "patent medicine" exploiter from entering into personal correspondence with those who buy his nostrums, and also prohibits the enclosing in the trade package of one "patent medicine" a circular advertising and recommending another "patent medicine." The bill further requires that all preparations sold under proprietary names and of secret composition shall be registered by the Ministry of Health, and their composition disclosed in confidence to the authorities.

It is interesting to note the reaction of those directly or indirectly affected by the proposed bill. Those who followed in careful detail the fight that was staged in the United States in 1905-1906 when the bill that became our national Food and Drugs Act was before Congress are able to realize the truism that history repeats itself. The same stock arguments are being used by the British nostrum exploiters and their defenders as were used by the American "patent medicine" interests fifteen years ago. The Proprietary Medicines Bill, according to these critics, is a shrewd scheme on the part of the "Medical Trust" to deprive the poor man of his medicine and make it necessary for him to patronize the doctor to the doctor's great financial advantage!

But especially in the attitude of the nostrum interests and their supporters toward formula disclosure is a close parallelism found. As has been so often pointed out, formula disclosure is the nightmare of the nostrum man. Take away his mystery element and you have practically destroyed his business. And his argument is always the same. Whenever it has been recommended in this country either as a federal, a state or a municipal law, American "patent medicine" makers have denounced formula disclosure as un-American and unconstitutional. And only three or four weeks ago a member of the Upper House in opposing the formula disclosure requirement, remarked in the House of Lords that it seemed to him "rather un-English" to demand a full disclosure of ingredients unless a very strong case could be made out for doing so. Undoubtedly, if Great Britain had a constitution, the noble lord would have declared that such a suggestion was unconstitutional. As it is, we may expect to hear that it violates the Bill of Rights and Magna Charta. Yet the English manufacturer of foodstuffs for animals and of manures for the soil for years has had to disclose the composition of these articles, proving that in the British Isles, as in the United States, cattle and crops are of more importance than human life.

That the Proprietary Medicines Bill will become a law in its original form is not to be expected. The "patent medicine" trade in Great Britain is as powerful as it is in the United States. It has millions behind it, and it forms a substantial section of the London Chamber of Commerce. British newspapers may be counted on, practically as a unit, to fight any bill that will restrict the sale of "patent medicines"; some of them have already published editorial denunciations. The American medical profession will watch with interest the Parliamentary vicissitudes of this much needed piece of legislation in Great Britain.

1. A number of interesting examples illustrating this point were given in the article "American and British Labels," published in the Propaganda Department of THE JOURNAL, July 20, 1912, and reprinted in "Nostrums and Quackery."

THE PRESSURE IN THE BLOOD CAPILLARIES

In the exchange of materials—the metabolism of food and oxygen, and the removal of waste—which goes on between the living tissues and the blood, the capillaries have an important part. Despite the recognition of this fact it cannot be said that the condition of the blood in the capillary vessels has received as much attention as its physiologic significance seems to warrant. To any one who has given only cursory consideration to the subject it may come as a surprise to learn that uncertainty still exists regarding the part of the vascular system in which the principal loss of energy occurs and where the high blood pressure characteristic of the larger arteries drops toward the low level of the venous areas. Formerly it was taught that the conspicuous fall in pressure takes place in the capillaries; latterly, however, the greatest fall has been associated with the small arteries. The importance of securing precise information about the conditions in the capillaries is further emphasized by the part which has rightly or wrongly been assigned to them in recent investigations of shock. The contentions of Dale [1] and others that in certain types of this circulatory disturbance the capillary walls are damaged by circulating poisons so that they lose tone have been referred to before in these columns.[2] In effect, a considerable volume of the blood is believed to become pooled in the capillary area, whereby a primary fall in arterial pressure results. This is further accentuated, we are told, by a transudation of blood plasma through injured capillary walls so that an actual decrease in circulating blood volume ensues.

One reason why so much of the current information about the capillaries is speculative rather than exact in character lies in the lack of suitable methods of direct observation. Devices for estimating capillary pressures have by no means been entirely wanting. Most medical students will recall the scheme of von Kries by which the pressure required to produce pallor in an area of the skin is determined. The procedure, however, has not justified itself so as to take a place along with the refined methods now in use for measuring arterial pressure. Recently Danzer and Hooker [3] of the physiologic laboratory at Johns Hopkins have devised an improved technic which differs from all previous methods in the criterion adopted for taking the readings. It depends on the production of stagnation of the flow of corpuscles in the capillaries which are observed microscopically. In this way, the capillary blood pressure in normal persons in the sitting posture has been found to average 22 mm. of mercury. The Baltimore investigators specially remark on the constancy of the figures for persons of both sexes regardless of age.

Judging by these studies, the diurnal variations in human capillary blood pressure, contrary to current belief,[4] are very slight at most. Postural changes are readily brought about, the lowest pressures occurring in the horizontal position and the highest in the vertical, the capillary pressure in the sitting posture being midway between the two. There is no doubt left by the measurements that cold lowers and heat raises capillary blood pressure. As this result may be noted even when the sources of heat or cold are not directly over the capillaries observed but are applied to the skin at some distance from them, reflex effects are evidently involved.

Of greater interest, we believe, is the conviction of Danzer and Hooker [3] that pallor of the skin cannot be regarded as evidence of capillary collapse. The prevalent conception attributes the redness of the skin to its capillaries. On this hypothesis pallor means capillary emptying. It must be remembered, however, that there are three venous plexuses in the cutis and one in the subcuticular layer.[5] When pressure is applied to the skin these plexuses are more or less emptied of their contained blood. Pallor occurs, but this is not necessarily accompanied by a cessation of flow in the capillaries. The latter undoubtedly contribute somewhat to the color of the skin; nevertheless their rôle is said to be relatively slight in comparison with that of the venous plexuses As might be expected, venous compression increases the pressure in the capillaries. It will be of interest to learn the physiologic significance of the increased capillary pressure which is bound to occur in persons having a high venous pressure either as a result of cardiac insufficiency or of disturbed intrathoracic pressure due to emphysema, asthma and pleural effusions; for one outcome of the new studies is the demonstration that capillary blood pressure is more closely dependent on venous than on arterial pressure.

1. Dale, H. H., and Laidlaw, R. P.: J. Physiol. **52**: 355 (March) 1919. Dale, H. H., and Richards, A. N.: Ibid. **52**: 110 (July) 1918.
2. Tissue Poisons in the Genesis of Shock, editorial, J. A. M. A. **73**: 38 (July 5) 1919.
3. Danzer, C. S., and Hooker, D. R.: Determination of the Capillary Blood Pressure in Man with the Microcapillary Tonometer, Am. J. Physiol. **52**: 136 (May) 1920.
4. Friedenthal, H.: Ztschr. f. exper. Path. u. Therap. **79**: 222, 1917.
5. Spalteholtz: Arch. f. Anat. u. Physiol. (Anat. Abth.), 1893, p. 1.

"HAIR FOOD"

"He who can grow hair can grow rich," provided he can grow the hair at demand on others. As yet, the achievements of our alopecic dermatologists with tonics and stimulants, or the maneuvers of our barbers (frequently bald-headed themselves) with singes, massages, vibrators and manipulations, have not been such as to deprive us of interest in the possibilities of other and newer methods. Biologic chemists having shown that certain amino-acids are necessary to secure growth of the organism as a whole, why not secure the growth of individual elements of the body by suitable selection of the nutritive needs of that part, even as savage warriors secure courage by eating the heart of a brave but vanquished foe?

One of Germany's most esteemed physiologists and experts on nutrition has undertaken experiments on selective nutrition of the hair, with a seriousness which commands respect even while his report awakens amusement.[1] The essential point is that hair, as well as nails, feathers and epidermis, is characterized by a high cystin content, there being from 7 to 8 per cent. of this sulphur-containing amino-acid in keratin, as contrasted with from 0.07 to 2.5 per cent. in other animal proteins, and from 0.25 to 0.45 per cent. in vegetable proteins. Therefore, why not feed cystin to the bald? Professor Zuntz began his experiments on himself, and states that whereas before beginning treatment he grew an average of 5 mg. of hair per day on his head and face, after consuming from 1 to 1.5 gm. of hydrolyzed keratin every day for two months, his average production of hair was 9.22 mg. He then tried its effects on sheep, as Germany was suffering from a wool shortage until, as will be recalled, paper trousers had become the vogue, and found an increased wool production 1.74 times the original amount. Two youths "who under the influence of the war had become nearly bald" were greatly benefited by the keratin diet, but a "Herr Kollege" gave up the treatment because he had to shave twice a day! And now a German firm has two preparations of hydrolyzed keratin on the market, one for man and one to grow wool on sheep.

While the author of this interesting as well as entertaining communication has earned the deep respect of all scientific men, so that his suggestion will undoubtedly be taken seriously and subjected to proof, one may properly take a skeptical view of the proposal. In the first place, almost any ordinary diet probably contains far more cystin than is required for the production of the amount of keratin that needs to be replaced, and secondly, in the large number of recorded cases of cystinuria, in which great quantities of cystin are wasted every day throughout life, a deficiency in keratin formation does not seem to have been a noticeable feature.

1. Zuntz, N.: Deutsch. med. Wchnschr. **46**: 145, 1920.
2. Stefansson, Vilhjalmur: Temperature Factor in Determining the Age of Maturity Among the Eskimos, this issue, p. 669.

Current Comment

TEMPERATURE AND MATURITY

On another page of this issue of THE JOURNAL.[2] the arctic explorer Stefansson has recorded observations regarding the surprisingly early age of maturity among Eskimo women. He is authority for the assertion that it frequently falls between the tenth and thirteenth year, reminding one of what is alleged to be a fact in the tropics. It has been an assumption that the sexual and developmental maturity is delayed to a later and later age as one goes northward on the European continent. We are not certain that dependable statistics, if indeed such are available, would support this belief. Nevertheless, the offhand conclusion has been reached that the age of maturity has a direct connection with climate, i. e., temperature, rather than with racial or dietary factors. Stefansson has ventured to explain the seeming contradictory conditions among the female Eskimos by the environmental rather than the hereditary factor. He points out that "to all intents and purposes the typical Eskimo lives under tropical or subtropical conditions." This is due to the fact that a high temperature from 80 to 90 F. (27 to 32 C.) is ordinarily maintained during the cold season in the Eskimo houses, and the natives are very warmly clad outdoors even when the weather is coldest. While an Eskimo is indoors, Stefansson naively remarks, his entire body is exposed to a local climate as warm as that of Sicily, and when he is outdoors he carries that climate about with him inside of his clothes over virtually his entire body area. The effect of temperature increments in stimulating metabolic and developmental processes is well known to biologists. Can it be, as Stefansson surmises, that an exceptionally warm environment for man similarly promotes those changes which lead to secondary sexual development?

HYGIENIC DISH WASHING

During the great epidemic of influenza the problem uppermost in the minds of hygienists and physicians was the prevention of infection. The use of face masks to prevent the possibility of the mouth and nose acting as portals of entry was proposed and adopted in many communities. An army medical officer, after a thorough study in army camps, became convinced that hand to mouth infection through the use of dishes after incomplete washing was in part responsible for the spread of this disease.[1] As a result, the whole process of handling food containers and dining accessories has been investigated in the army; and a recent number of the *Medico-Military Review*,[2] issued by the Surgeon-General's Office, devotes considerable space to dish washing. Physicians know that a dish may appear quite clean, yet at the same time from a hygienic standpoint be contaminated. As it is impossible to test every dish for freedom from bacteria, it is necessary to standardize the method of cleansing to insure freedom from gross dirt as well as from bacterial contamination. The two factors for cleanliness are soap and heat. In handling large quantities of dishes, dish-washing machines are used which, when operated properly, fulfil the requirements. Where such machines are not available, as in the ordinary home and in many hospitals, the method adopted in one of the camps would seem to have considerable advantage: The dishes are placed in large trays. Immediately after a meal, the food is scraped from the dishes, which are then scrubbed in the kitchen sink,

1. Cumming, J. G.: Rôle of Hand in Influenza, Mil. Surgeon **43**: 597 (Dec.) 1918; Influenza Pneumonia as Influenced by Dish Washing in Three Hundred and Seventy Public Institutions, Am. J. Pub. Health **9**: 414 (June) 1919.
2. Medico-Military Review, Surgeon General's Office **3**: 44 (Aug. 15) 1920.

hot, soapy water being used. After rinsing in hot water, the trays are placed in a tank or boiler which contains about two inches of water. The lid is placed on the tank and the water boiled about ten minutes. The trays are then lifted from the tank and the dishes allowed to dry by their own heat. This requires about two or three minutes, and eliminates the necessity of wiping with a towel. While the method is adapted particularly to army or institutional use, and may seem complicated for ordinary home purposes, it is, in fact, relatively simple. It is reported that the dishes after washing and drying by this method are not only clean but have a high polish.

REST AS A THERAPEUTIC MEASURE

When Weir Mitchell proposed the "rest cure" for the neurasthenic, he propounded no new principle in therapeutics but made of rest a ritual and thereby secured the patient's cooperation. It is interesting in this connection to read an extract from a letter written to Sir Philip Rose in 1846 by Benjamin Disraeli, later Earl of Beaconsfield and prime minister of England. Both great men suffered at times from what is commonly called "nervous breakdown." Rose had just returned from a trip abroad to recover from one of these attacks. Disraeli says:

> My present condition of health and career may convince you that there is more of distress than danger in these exhaustions of the nervous system. But if not duly checked, the trial they inflict is severe. Repose is the best medicine, and we should guard against the belief that there is any cure for them but a gradual one. Repose, however, is a rare medicine, and impatient suffering is too apt to take refuge in quacks.

If all laymen were intelligent—if all could realize that processes of repair in human tissues are not miracles but gradual evolutions in natural processes, which the physician assists and augments—the task of the physician would be less difficult.

HEALTH EDUCATION FOR CHILDREN

The attention of the average child grows listless if he is compelled to sit very long and listen to a talk about the advantages of oatmeal and spinach, of increased weight, of tooth-brushing, baths or any other steps in personal hygiene. It has therefore been a difficult pedagogic problem to develop methods for child health education. However, through a body—the Child Health Organization—headed by an executive committee containing such distinguished names as Holt, Pisek, Sachs, Winslow, Heiser, Mrs. Frederick Peterson and Hon. Franklin K. Lane, these problems are being studied and remarkably effective methods of propaganda developed. Among the chief features are Cho-Cho, a health clown—named in honor of the organization; the picture man—a health cartoonist, and the health fairy. The services of these specialists are available for teaching the child the essential rules of the health game. Cho-Cho, because he is a clown, has the undivided attention of every child. He teaches the simple facts of health and hygiene while for forty minutes in an atmosphere of jollity and happiness he demonstrates the right way to eat, bathe, sleep and brush the teeth. The picture man is a cartoonist who, by rapid drawings in colored chalks, illustrates the simple rules of health. The health fairy, in a gown of chiffon with silver wings, tells the smaller children the elementary rules which the organization believes every child should know. The organization also issues a series of booklets of special interest to children, such as "Cho-Cho and the Health Fairy," "The Child's Health Alphabet," cards and pictures which must by their artistic character fascinate and interest every child. There are many physicians unfamiliar with this work who will, no doubt, welcome an opportunity to avail themselves of this service.[1]

THE PERMEABILITY OF THE PLACENTA FOR HORMONES

The circulation of the mammalian fetus is peculiar in being anatomically distinct from that of the mother. On this account the placenta has a special rôle as an intermediator in the transfer of substances between the maternal and fetal tissues. It has long been realized that not all substances pass the placental barrier with equal readiness. The recent investigations of Slemons[2] and his collaborators, in particular, have shown that amino-acids, urea and blood sugar, for example, evidently diffuse easily and promptly so as to secure an equilibrium between the composition of the bloods of the mother and the fetus. Shimidzu[3] has attempted to ascertain whether hormones can pass through the placenta with equal ease. The problem is obviously important, because endocrine regulation is currently believed to be potent in the physiologic functioning of the organism, and particularly during pregnancy. Shimidzu used epinephrin as an illustrative hormone to be tested in this connection. This choice may not have been an ideal one from the standpoint of endocrinology. However, the experimental evidence pointed against increase of epinephrin in the fetal blood after injection of the substance in large amounts into the mother; in other words, this hormone, at least, does not pass through the placenta to the fetus.

1. Child Health Organization, 156 Fifth Avenue, New York.
2. Slemons, J. M.: The Nutrition of the Fetus, New Haven, Yale University Press, 1919.
3. Shimidzu, Y.: On the Permeability of the Placenta for Adrenalin in the Pregnant Rabbit and Albino Rat, Am. J. Physiol. **52**: 377 (June 3) 1920.

Education in Mothercraft.—Lack of knowledge on the part of the mother is one of the chief contributory causes of illness and even death among infants. The mother is not born with an instinctive knowledge of infant management, but an acquaintance with the simple laws of health, which must be followed in order to rear her child successfully, is essential to her. The sensible, well informed mother will successfully surmount numberless difficulties of environment and social circumstance which might prove disastrous to the children of less careful, more ignorant women, and the loving, well meaning, but uninstructed mother, may unwittingly cause much suffering to her children. There is no lack of maternal affection and desire to act rightly, there is great lack of knowledge as to what to do and how to do it. Thus, education in "mothercraft" is of the highest importance.—*J. State M.*, July, 1920.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Cottage Hospital.—The first unit of a cottage hospital plant has just been completed for Roosevelt Hospital, Pasadena. The plan includes the development of a hospital with the addition of cottage units as needed, and also private cottages for patients who desire special accommodations.

Personal.—Dr. Walter M. Dickie, Los Angeles, has been appointed a member of the state board of health, succeeding Dr. Irving R. Bancroft, Los Angeles, resigned.——At the meeting of the state board of health in San Francisco, August 7, Dr. Dickie was elected secretary and executive officer of the board.

Malaria Control Results.—Last year $10,000 was granted from the emergency funds of the state board of health for malaria control work at Anderson, Shasta County. An extensive campaign against mosquitoes was carried on, and a new antimalaria clinic conducted. As a result, while in June, 1919, 98 per cent. of the persons questioned gave histories of having suffered from malaria during the spring months, in June, 1920, only five cases of malaria had been reported or heard of at any time during 1920.

COLORADO

Dr. Farrand Goes Abroad.—Dr. Livingston Farrand, Boulder, chairman of the American Red Cross, sailed on the steamer *Olympic* for Europe, August 4.

Course in Public Health Nursing.—During the last school year, the University of Colorado and the Colorado Fuel and Iron Company successfully conducted two courses in public health nursing of four months each at the Minnequa Steel Works and Hospital, with field work in Pueblo and the surrounding mining camps. The third course will be given, beginning September 20 and ending in June of next year. The course consists of lectures and class recitations, conducted by members of the university faculty and physicians and surgeons, and is directed by a representative of the Colorado Fuel and Iron Company, the dean of the University of Colorado Medical School acting in an advisory and supervisory capacity.

FLORIDA

Plague Rat is Found.—The twenty-fourth rat with bubonic plague was found near the custom house at Pensacola, August 7. The health authorities estimate that more than a million dollars will be spent in making buildings rat-proof in Pensacola.

Tuberculosis Commission Appointed.—The governor on August 12 appointed Dr. Robert H. McGinnis, Jacksonville, Mr. John D. Baker and Mr. E. E. Cohen as tuberculosis commissioners for Duval County. Duval is the first county in the state to take advantage of the tuberculosis hospital law passed by the legislature several years ago.

GEORGIA

Personal.—Dr. M. A. Fort has been elected commissioner of health of Brooks County.——Dr. Joe D. Applewhite has resigned as commissioner of health of Lownes County and has been elected to a similar position in Clark County, with headquarters at Athens.——Dr. Eugene O. Chimene has been elected temporary commissioner of health of Floyd County, with headquarters at Rome.——Dr. Calvin C. Applewhite, passed assistant surgeon, U. S. Public Health Service, has been detailed to establish a school of public health and hygiene in the medical department of the University of Georgia, Augusta.

IDAHO

Personal.—Dr. Frank W. Almond, city physician of Boise, has been appointed director of the state bureau of public health service, succeeding Dr. E. E. Laubugh, resigned.——Dr. Joseph M. Downes has resigned as city physician of Boise.

Pocatello Selected.—Pocatello has been named by the government as the public health central office for central Idaho. Dr. Charles H. Sprague is the director of the work, and connected with his office are Drs. Frank Sprague and Joseph V. Clothier and Thomas Mullen. This office, in addition to caring for service men, is in immediate charge of all the men taking federal vocational education work at the Idaho Technical Institute.

ILLINOIS

Hospital Completed.—The new hospital at the Cunningham Deaconess Home, Champaign, has just been completed. It has accommodations for twenty children.

Personal.—Dr. George H. Stacey has been appointed by the mayor of Peoria, director of the venereal disease clinic soon to be opened in this city.——Dr. Alice Barlow Brown, Winnetka, is reported to be ill in Serbia.

Reading Room Open.—The board of directors of the John Crerar Library, Chicago, announces that it has made arrangements for limited service of current periodicals, both general and medical, in a temporary reading room at 156 North Michigan Boulevard. The reading room will be open from 9 to 5:30 daily.

Clinic Opens.—A physician from the Jacksonville State Hospital and Miss Lucy Capron, social worker at the same institution, opened a mental hygiene clinic in St. John's Hospital, August 17. Patients from Springfield and surrounding cities go to the clinic for examination, and advice to some paroled patients from the Jacksonville State Hospital is also given.

Antituberculosis Propaganda in Montgomery County.—A meeting was held at Litchfield the first week in August, presided over by Dr. Christian H. Zoller, Litchfield, at which the plans were announced for the fight to be waged against tuberculosis in Montgomery County. These plans included the establishment of free tuberculosis clinics, the gathering and tabulation of health data and the employment of a visiting nurse.

INDIANA

Nurses' Home.—The state board of health has presented an ordinance to the Indianapolis city council authorizing a bond issue of $350,000 for the construction of a nurses' home. Tentative plans were approved for a three-story building to accommodate 150 nurses.

Physician Reinstated.—Dr. Charles Landfair, Bluffton, whose license was revoked sixteen years ago, when he was convicted of illegal practice and sentenced to the state penitentiary, was reinstated when he was granted a license by the state medical board, August 5.

Hospital Addition Begun.—Methodist Hospital of Indianapolis has begun work on an addition, 60 by 120 feet, the cost of which is estimated at $300,000. Among the conveniences will be steam tables for the diet kitchen, ranges for cooking and roentgen-ray equipment in every room.

State Board Officers Reelected.—At the reorganization meeting of the state board of medical registration and examination, held in Indianapolis, August 13, Dr. William A. Spurgeon, Muncie, was reelected president and Dr. William T. Gott, Crawfordsville, secretary, and Dr. Paul R. Tindall, Greensburg, was elected treasurer.

City Hospital Has Pay Patients.—Dr. Harry Foreman, superintendent of the City Hospital, Indianapolis, reports that the total collections from pay patients for the first six months of 1920 amounted to $10,344.13, as compared with $2,716.29 for the same period in 1918. The social service department checks up on patients to determine which patients are financially able to pay or have access to compensation funds.

New Clinic About to Open.—The McKeen homestead, Terre Haute, which was recently purchased by Drs. Frank H. Jett, Charles N. Combs, Joseph H. Weinstein, H. J. Pierce, John R. Gillum, Oliver O. Alexander and William G. Crawford, has been remodeled and is now almost ready for occupancy. There are to be seven consultation rooms and seven examination rooms in the remodeled building in addition to the general offices and special rooms required.

Personal.—Dr. Benjamin H. Cook, Anderson, who was operated on for appendicitis recently in St. John's Hospital, has returned home, convalescent.——Dr. Charles J. Brockway, formerly of Lafayette, has located in Brookston.——Dr. Thomas J. Stephenson, Lapel, left for England, August 7.——Dr. Fred L. Bunch, Muncie, who has been seriously ill following a surgical operation, is reported to be improving.——Dr.

James A. Rawley, Brazil, was operated on at the Rawley Hospital, August 17, for the removal of a gangrenous appendix.

IOWA

Clinic Established.—Articles of incorporation have been filed for the Correctionville Hospital and Clinic with a capital stock of $10,000. Dr. Homer A. Smith, Correctionville, is president; Dr. Alfred H. Bullock, Cushing, vice president, and Dr. Junius K. Oates, Correctionville, secretary-treasurer of the corporation.

Personal.—Dr. Raymond E. Peck, Davenport, has returned from a trip to Alaska.——Dr. James W. Morgan, Wapello, suffered a cerebral hemorrhage, August 1.——Dr. Robert E. Jameson, Davenport, is convalescent after several weeks' confinement in Mercy Hospital following a surgical operation. ——Dr. Frederick L. Appel, Muscatine, who has been seriously ill for several weeks, is reported to be improving. ——Dr. Amos W. Bennett has been appointed health officer of Iowa City, succeeding John P. Mullin, who has sailed for Europe.——Dr. Thomas F. Duhigg, Des Moines, was nominated for Congress at the seventh district caucus.

LOUISIANA

Lepers' Home Sold.—The state legislature has authorized the sale of the leprosarium at Carville to the government for $35,000 to be used as a national leprosarium. By the terms of the sale, the lepers, now inmates of this institution, are taken over by the U. S. Public Health Service.

Breakfast to Health Officials.—A number of noted health officials who had been in attendance at the recent public health conference in Galveston regarding the extermination of rats were breakfast guests of Drs. Oscar Dowling, president of the state board of health, and Dr. William H. Seemann, city bacteriologist, at New Orleans, August 5.

Honor Dr. Mahon.—The regular meeting of the Rapides Parish Medical Society at Alexandria, August 2, was turned into a "good-bye" meeting in honor of the outgoing superintendent of the Baptist Hospital, Dr. R. P. Mahon. Dr. Mahon was presented with a silk umbrella and a cane, the presentation address being made by Dr. John L. Wilson, president of the hospital staff.

MARYLAND

Surgical Instruments Presented to Museum.—The Archeological Museum of Johns Hopkins University, Baltimore, has been presented with a set of thirty-six Greco-Roman surgical instuments, which were found near Kolophon in Asia Minor.

Physician Pleads Guilty.—Dr. Samuel A. Rosse, Crisfield, charged with violation of the prohibition law, is reported to have pleaded guilty with the understanding that he would be permitted to change his plea before the United States court. He was released under a bond of $3,000.

Presentation to Dr. Brush.—Dr. Edward N. Brush, who recently retired as physician in chief and superintendent of the Sheppard and Enoch Pratt Hospital, Towson, was presented by a number of friends, including employees of the institution, on July 8, with a life-sized portrait of himself. Hon. Frank J. Duncan delivered the presentation address.

The Magruder Obsequies.—Funeral services for Dr. Ernest Pendleton Magruder, chief surgeon of the American Red Cross, who died during the typhus fever epidemic at Belgrade, Serbia, in 1915, were held in Washington, D. C., July 29. Drs. George Tully Vaughan, Sterling Ruffin, Ethan F. Butler, Col. Clarence H. Connor representing the American National Red Cross, and Hon. Henry Stockbridge, judge of the Court of Appeals of Maryland, were honorary pallbearers.

Penalties Under Narcotic Control Act.—On August 13, the following druggists are said to have been found guilty of violating the provisions of the Harrison narcotic act and fined: Richard L. Esslinger, $6,000; Louis F. Sherman, $5,400, and J. Frank Katzen, $5,000. Under the provisions of the same act the following physicians are said to have been found guilty and fined: Dr. Thomas H. Magness, $4,500; Dr. Albert D. Driscoll, $1,000; Dr. Joseph J. Nurkin, $450; Drs. Hugh M. Boring and John I. Cuhn, each $400, and Dr. William M. Wright, $300. The operation of these sentences was suspended until October 4. The fines were made especially heavy because of aggravating circumstances; in almost every case information had been obtained by the authorities that narcotics were being dispensed in large quantities. They made a raid on the druggists and physicians named and seized a large number of prescriptions. The physicians contended that the prescriptions had been written in the regular course of treatment of addicts who were their patients, while the druggists maintained there was nothing illegal in filling the prescriptions as they had been issued by licensed physicians. It was shown to the court, however, that the quantities of narcotics called for by the prescriptions exceeded greatly the doses given in cases such as those under consideration were alleged to be.

MICHIGAN

Money Raised for Ambulance.—Jules C. Stein and Harry A. Singer, members of the senior class of Rush Medical College, Chicago, have raised $1,020 for an ambulance for Charlevoix, from the proceeds of a carnival held at the Charlevoix Beach Hotel.

County Hospital at Big Rapids.—Pending the result of the coming election on the establishment of a county hospital at Big Rapids, a twenty-bed general hospital is being operated by Mrs. Sadie Sawyer. The present arrangement was instituted after the destruction of Mercy Hospital by fire, Dec. 1, 1919.

Personal.—Dr. Edwin R. Vander Slice, Lansing, for several years medical director of the Michigan Anti-Tuberculosis Association, who has been very active in the establishment of permanent clinics in Michigan, has resigned to enter private practice in Lansing. He is to continue his work in connection with the U. S. Public Health Service as tuberculosis specialist.——Dr. Periam B. Hardy, Tecumseh, recently returned from a six months' trip to Australia.——Dr. Frank B. Walker, Detroit, has been selected as chairman of the general committee of the first convention of the Officers of the Great War to be held in Detroit, September 7 to 9.

NEW HAMPSHIRE

War Surgeons Hold Outing.—The first annual outing of the New Hampshire Society of World War Surgeons was held at Hampton Beach, July 28, and the following officers were elected: president, Dr. George V. Fiske, Manchester; vice president, Dr. E. O. Grossman, Manchester; secretary, Dr. Dennis E. Sullivan, Concord, and treasurer, Dr. Melvin P. Badger, Manchester.

The Tuberculosis Fight.—At a meeting of the executive committee of the New Hampshire Tuberculosis Association held in Manchester, August 3, Dr. Clarence O. Coburn presiding, the executive secretary, Dr. Robert B. Kerr, Pembroke, announced that clinic case finding and survey work are being done in every county except Carroll. New clinics and nursing service have been established at Dover for Strafford County; at Berlin, for Coos County; at Keene, for Cheshire County; at Concord, for Merrimac County, and at Peterboro, for Hillsboro County, exclusive of Nashua and Manchester. Clinics will soon be established at Lebanon, Laconia, Exeter and Newmarket, and it is stated that new health centers in Grafton, Belknap and Rockingham counties will be open by the middle of next month.

NEW YORK

Personal.—Dr. Isaac W. Brewer, city health officer of Watertown, who has been under treatment in Buffalo for several weeks, has recovered and resumed work.——Dr. Philip S. Goodwin, Perry, sustained painful injuries when his automobile crashed into a tree, August 12.——Drs. Frederick R. Driesbach and John H. Burke have been appointed directors of the Dansville General Hospital.——Dr. William E. Hartigan, Norwich, has been reelected president of the Chenango County branch of the American Legion.

First Rural Consultation Clinic.—The first rural consultation clinic held in the United States was conducted at Goshen, Orange County, on August 24, 25 and 26, under the direction of the New York State Department of Health and with the cooperation of the state department of education, state charities aid association, American Red Cross, state hospital commission and commission for the feebleminded. The clinic was subdivided into the following groups: diseases of children, diseases of adult life, diseases of women, mental and nervous disorders, orthopedic surgery, venereal diseases and oral surgery.

New York City

Infirmary Reopens.—The New York Infirmary for Women and Children, 321 East Fifteenth Street, has been reopened after considerable alterations and improvements and is now

in a position to accept interns (women only) for its medical, surgical, obstetric and children's services.

Personal.—Dr. Pearce Bailey has resigned from the board of managers of the state reformatory for women at Bedford. ——Dr. Archibald Keightley, who has resided in London for several years, has resumed practice in New York City, paying special attention to disorders of metabolism.

New Milk Committee Organizes Service Bureau.—Acting on the suggestion of the National Commission on Milk Standards, the New York Milk Committee has organized a service bureau, with headquarters at 30 Broad Street. This bureau is prepared to furnish speakers, literature and other assistance to local health departments on measures pertaining to milk and milk products. In this way the New York Milk Commission, it is believed, can be an aid to those cities in need of better official control of their milk supplies.

Ships Bring Disease.—The Italian liner *Dante Alighieri*, which arrived from Naples and Genoa, August 23, was placed in quarantine as a case of smallpox had appeared among the steerage passengers all of whom were sent to Hoffman Island. The first and second class passengers were vaccinated and allowed to leave the steamer.——Two cases of typhus fever were discovered among the steerage passengers who arrived in New York, August 12, on the steamship *Niagara* from Bordeaux. The ship was held in quarantine.

OHIO

Civil Service Examinations.—Civil service examinations were held, August 5, to fill from ten to twelve positions as assistant physicians at state institutions, with pay ranging from $1,020 to $1,920 and with full maintenance.

PENNSYLVANIA

New Hospital Established.—Twenty Pottsville physicians have established a new hospital in Pottsville which will be named after Mrs. A. C. Miliken, a philanthropic resident of Pottsville. The Pottsville Hospital, the only other institution of the kind in Pottsville and which is supported by the state, is much overcrowded.

Outing for Lycoming County Physicians.—Dr. Victor P. Chaapel, former president of the Lycoming County Medical Society, Williamsport, and his wife entertained at dinner physicians of the county and a number of physicians from adjoining counties, eighty-four guests in all, at their summer home, Elk Lake, August 13. A presentation was made to Dr. Chaapel, and addresses were also made by Dr. Cyrus Lee Stevens, Athens, president of the Medical Society of the State of Pennsylvania, and by Dr. Donald Guthrie of the Sayre Hospital.

Physician Granted Mandamus.—Dr. Samuel S. Colver, Colver, is said to have been granted a mandamus, August 16, by Judge Hargest of Harrisburg, to compel the state board of medical registration and licensure to grant him a license to practice medicine. Dr. Colver alleges that he obtained a license in Maryland in 1895, and that he is entitled to a Pennsylvania license by reciprocity, but that the state board has refused him a license because it does not recognize the Maryland college from which he was graduated. The board was given until September 17 to file answer in the suit.

Personal.—Dr. Howard L. Hull, Camp Hill, chief medical inspector of the state department of health, Harrisburg, has resigned.——Dr. George K. Strode, West Chester, chief of the division of school hygiene of the state department of health, has resigned to take up research work with the Rockefeller Institute.——Dr. George Hay, Johnstown, announces his retirement from the practice of medicine, in order that he may assume the second vice presidency of the Auto Gas and Oil Service Company.——Dr. William H. Sears, Huntingdon, was in attendance at the Ophthalmological Congress in Oxford, England, July 15 and 16.

Philadelphia

Personal.—H. L. Harned was appointed consulting chemist and R. L. Sebastian, reasearch industrial chemist, to the state department of health laboratories, August 16.—Drs. Luther C. Peter and S. Lewis Zeigler were present at the Ophthalmological Congress, Oxford, England, July 15 and 16, and Dr. Peter, by invitation, opened the discussion on "Newer Methods of Perimetry."

Drug Addicts Denied Mail and Visitors.—The house of correction has been closed to visitors and even to packages of mail for inmates as a means of wiping out the "dope traffic" between drug addicts and the outside world. The visiting ban has been placed on the institution by Dr. Blair S. Spencer, physician-in-chief of the department of public welfare.

Health Probe of Schoolchildren Urged.—An appeal to parents to support the White William Foundation in its efforts to secure better physical efficiency among schoolchildren was made by Dr. Edwin B. Twitmeyer, psychologist at the University of Pennsylvania. He said that from 10 to 15 per cent. more public schoolchildren would be promoted if they had a physical examination before entering school in September. The school nurses' report for the year ending June 30 showed that 5,911 cases of badly diseased tonsils were discovered in public schools during the year by medical examiners.

Nursery Aids Sickly Children.—The need of a place where physical abnormalities would in time be minimized through home surroundings for patients rather than through constant use of medicine prompted the donation of an estate on Germantown Avenue near East Grovers Lane, to be used for the cause. Forty children from the Philadelphia General Hospital, all predisposed to tuberculosis, and ranging from 2 to 14 years of age, are enjoying the benefits of the donation. The progress made by the children who are constantly in the open air, taking even their meals on a porch of the house, is marked by the nurse. The physical defects of these children are being overcome by the application of the natural life rather than through the use of methods more fitted to older persons.

VIRGINIA

Apartment Turned Into Hospital.—The Waverly Apartment at the north end of Court Street, Richmond, has been purchased by an association of physicians for $82,500, and it is understood the purpose is to convert the building into a hospital with from fifty to sixty private rooms.

Suit Settled Out of Court.—Suit for $10,000 damages brought by a negro boy against Dr. Joseph C. Dunford, Portsmouth, the allegation being injury to the boy's sight, is reported to have been settled out of court, July 21, by payment of $1,000 and court costs of the complainant.

Personal.—Dr. Eppa H. Heaton, Waterford, who suffered a cerebral hemorrhage at his home, August 8, is reported to be improving.——Dr. Henry H. Levy, Richmond, who has been under treatment in the Stuart Circle Hospital for several months for a fracture of the hip, is making slow progress toward recovery.——Dr. Kenneth R. Glennan, Newport News, has resigned to resume private practice in Kentucky, and Dr. Charles Bell has been appointed his successor as port surgeon on duty with the Immigration Department.

CANADA

Florence Nightingale Medal Awarded.—The Florence Nightingale Medal, an international decoration, which is only awarded to women whose work in the cause of humanity has been of paramount importance, has been awarded by the International Committee of the Red Cross to Miss Margaret Clotilde Macdonald, matron-in-chief of the Canadian Expeditionary Forces during the World War.

Personal.—Dr. John Bryce McMurrich, Toronto, who, after serving overseas for several years, went to China, has returned to Toronto to resume practice.——Dr. Henry Crawford Scadding, Toronto, has sailed for England.——Dr. Herbert A. Bruce, Toronto, has had conferred on him by the king of the Belgians, the Order of the Crown (Chevalier), in recognition of his services to Belgium during the great war. ——Dr. Robert D. Defries, Toronto, has been appointed associate director in charge of the antitoxin division of the Connaught Laboratories, Toronto, and Dr. Alfred Hans Waring Caulfield has been appointed part-time research associate.

GENERAL

Change of Location.—The National Industrial Conference Board announces that after August 23 its headquarters will be transferred from Boston to 10 East Thirty-Ninth Street, New York City.

America Leads World.—Red Cross membership reports show that the United States leads the world in Red Cross membership with more than 10,000,000 adult members; Japan is second, with 1,900,000 members; Italy, third, with 300,000 members, and France, fourth, with 250,000 members. The figures for England, Canada and Australia are not available.

North Carolina Leads South.—During the year from June, 1919, to July, 1920, 5,505 women and girls completed courses

in home hygiene and care of the sick given by the Southern division of the American Red Cross. In this work North Carolina led with 736 students taking the full course and 581 taking the modified course. Tennessee came next with 567, taking the complete course and 309, the modified course.

Missouri Valley Physicians to Meet.—The annual meeting of the Medical Society of the Missouri Valley will be held in Omaha, September 6 and 7, under the presidency of Dr. Charles Ryan of Des Moines, Iowa. The headquarters will be at the Hotel Fontenelle where the annual dinner will be given on the evening of September 6, following which Dr. Karl Albert Meyer, Chicago, will deliver the oration in surgery on "Ulcer Cure Following Gastric and Duodenal Perforation."

Standard Ratproofing.—The U. S. Public Health Service has drawn up plans for radical changes in the construction of business buildings, dwellings, and wharves as part of the nation-wide campaign for rat extermination. While the Public Health Service can concern itself directly only with the problem of plague prevention, the economic problem that enters into the situation is, according to authoritative estimates, that there is one rat for every person in the United States, and that to maintain this huge number of rats costs the people of this country approximately 1 cent per person every day for rat food, an intolerable and unnecessary burden for the people to carry.

First-Aid Contests.—The International First-Aid Contest will be held in Denver, September 9 to 11, and sixty-three first-aid teams, representing seventeen states in which mining is one of the chief industries, have already sent in their entries. These entries also include teams from the mining regions of Canada and Mexico. The meet is being held under the auspices of the United States Bureau of Mines in cooperation with the Bureau of First-Aid of the American Red Cross. Dr. Edward R. Hunter, Delanco, N. J., of the American Red Cross, has been selected chief of judges with Dr. John W. Amesse of Denver and R. Z. Virgin of Pittsburgh, as assistants. In addition to the bronze medal awards to members of winning teams in the first-aid events by the American Red Cross, prizes will be given by mine owners and operators and others interested in the advancement of first-aid work.

Bequests and Donations.—The following bequests and donations have recently been announced:

Addison Gilbert Hospital, Gloucester, Mass., $4,000, by the will of Mrs. James S. Ayer, Gloucester.

Eastern Maine General Hospital, Bangor, $10,000, by the will of Dr. Thomas Opham Coe, Bangor.

Mount Sinai Hospital and the Montefiore Training School for Nurses, each $10,000; and Mount Sinai Pension Fund, St. Vincent's, Presbyterian and Beth Israel hospitals, New York, each $2,500, by the will of Watman Haas, New York.

Mount Sinai Hospital, New York, $5,000; Montefiore Home, New York, each $2,000, by the will of Samuel Haas.

Methodist Hospital, Indianapolis, $50,000; St. Vincent's Hospital, Indianapolis, $25,000, by the will of Charles W. Fairbanks.

Visiting Nurse Association and Children's Memorial Hospital of Chicago, each $250,000; the United Charities of Chicago, $150,000; Chicago Nursery and Half Orphan Asylum, and Chicago Home for Destitute Crippled Children, each $25,000; Country Home for Convalescent Children, $10,000, by the will of Mrs. Nellie A. Black, Chicago.

Congress Against Alcoholism.—The fifteenth International Congress Against Alcoholism will be held in Washington, September 21-26. The program includes addresses by many famous scientists, the congress being concerned almost exclusively with the scientific phase of the subject. Dr. Ley, professor of psychiatry at the University of Brussels, will speak on "Alcohol and Criminality;" Dr. Legrain, Paris, on "Nervous and Mental Diseases and Their Relations to Alcoholism;" Professor Aschaffenburg, director of psychiatric clinic, Cologne, on "Heredity and Environment as Causative Factors in Alcoholism;" Dr. Charles R. Stockard, Cornell University, on "Latest Scientific Investigation in America of the Action of Alcohol on the Brain, the Nervous System and Heredity," and Dr. Eugene L. Fisk, medical director, Life Extension Institute, New York, on "The Relationship of Alcohol to Modern Health Ideals." This congress will be noteworthy because of the fact that it is the first to be held in a prohibition country. The last meeting was held in Milan, Italy, in 1913.

LATIN AMERICA

New Medical Subjects Taught in Salvador.—The department of public education has added gynecology, which will be taught in the fourth year, and pediatrics in the fifth, to the subjects now being taught in the school of medicine.

Hospital Presented by Brazil to France.—The French chamber of deputies recently voted an appropriation of 1,133,000 francs for the Brazilian Hospital at Paris to equip it to serve as a surgical service for the medical faculty.

New Public Health Law in Costa Rica.—A new public health law has been adopted in Costa Rica, placing all public health matters in charge of the national government, which will exert its powers through the local authorities. A superior board of health will administer the law, which deals specifically with the various public health subjects.

School Hygiene in Bolivia.—There has been recently organized in Bolivia a school hygiene service. In the capitals of the department this service will be in charge of special physicians, while in the small towns the city physicians will perform these duties. There will be a general office of school hygiene, headed by a physician, in the department of public education.

Medical Congress of Venezuela.—The organizing committee of the Third Venezuelan Medical Congress has finally decided to hold the congress from July 24 to 28, 1921. The first and most important topic will be a symposium on the medical geography of Venezuela. Dr. F. A. Rizquez will open the discussion. Other subjects on the program are malaria, beriberi, yellow fever and the medical flora of Venezuela.

New Professors in Chile.—There have been made recently the following appointments in the school of medicine of Santiago de Chile: Dr. Luis Vargas Salcedo, professor of descriptive anatomy, and Dr. Armando Larraguibel, professor of experimental pathology.——The number of medical students enrolled during this year was so large (210 new students, and 130 who failed to pass), that it was decided to have parallel courses this year to accommodate all the students.

New Hospital in Uruguay.—The public assistance authorities of Uruguay have decided to build the Hospital Gallinal-Hebert on a suitable place on the sea shore, for the treatment of children with tuberculosis, rickets and similar diseases. The funds for the construction of this hospital are a gift from Dr. Alejandro Gallinal.——Dr. J. P. Capdevila has been sent to Europe to obtain sanitary equipment for the army.——Dr. Julio Mailhos has been sent to Europe and the United States to study the preparation of itch remedies.

School for Sanitary Police in Paraguay.—The board of public health of Paraguay has decided to establish a school for sanitary police in the city of Asunción.——The government has placed all public health matters in the hands of a commission consisting of three members, besides the director of the national department of public health, who will act as chairman.——In order to combat the spread of epidemics, the entire country has been divided into three sanitary zones.——The president has ordered the establishment of an eye, ear, nose and throat dispensary under the national department of public health.

Tropical Disease Institute Planned.—An effort is being made to bring about the establishment in Panama of an international institute for research on tropical diseases as a memorial to the late Major-Gen. William C. Gorgas, Surgeon-General, U. S. Army. Panama has been chosen as a location in view of the fact that General Gorgas' most noteworthy health research was accomplished there. The Panama government will, it is said, donate the million dollar St. Thomas Hospital for the proposed institute, and it is hoped that the Rockefeller Foundation, which did so much to rid Panama of hookworm, will cooperate in this laudable undertaking.

FOREIGN

Personal.—Prof. H. Mygind of Copenhagen was elected honorary member of the Otolaryngologic Society of the Northland at its meeting in June.

Medical Officer on Railway Trains.—The Japanese state railway administration has decided to maintain a physician and install medical facilities on each of the principal trains leaving Tokyo.

Red Cross Island.—Proti Island in the Black Sea which has been occupied by a relief hospital station for Russian refugees maintained by the American Red Cross Unit under the command of Dr. Edwin B. Godfrey, Springfield, Ill., is now known as Red Cross Island in honor of the work done by that organization.

Prize for Research on Nervous Diseases.—The *Bulletin médical* announces that the Belgian Académie de médecine has a new prize to offer for research on the clinical, pathogenic and therapeutic aspects of diseases of the nerve centers and of epilepsy in particular. The prize amounts to 7,500 francs and competing articles must be received before Oct. 15, 1922.

Retirement of Quénu and Robin.—The *Bulletin médical* says that Dr. A. Gosset, professor of external pathology of the Paris medical faculty, has been appointed to the chair of clinical surgery left vacant by the retirement of Professor Quénu, Dr. Vaquez, professor of internal pathology has been appointed in the same way to succeed Professor Robin in the chair of clinical therapeutics. The retirement of Quénu and Robin occurs Nov. 1, 1920.

Donations of the Munich Medical Weekly.—The *Münchener medizinische Wochenschrift* is published by a group of fifteen professors, including Bier, von Leube, von Merkel and Bäumler, representing ten different German universities. At the recent annual meeting of the board, the usual donations to scientific and professional relief purposes were made, totaling this year 9,000 marks, notwithstanding the difficulties attending the publication of periodicals at present. The price now for the United States is $6. The price in Germany has been increased within a year from 34 to 80 marks.

Smallpox in Glasgow.—A smallpox epidemic has been prevailing in Glasgow, and up to July 25, 379 cases of the disease, with sixty-five deaths, were officially reported. Unfortunately for the efforts at public control, the necessity for vaccination is not appreciated by many of those most exposed to infection. The mortality rate among those vaccinated in infancy has been 12 per cent., among the unvaccinated, 34 per cent., and among those without definite evidence of vaccination, 20 per cent. The occurrence of mild unrecognized cases and the tendency to conceal information regarding contact are also creating difficulties in dealing with the outbreak. Night raids on model lodging houses have recently been undertaken with a view to discovering concealed cases.

Japan Said to Be Doping Chinese.—The international Antiopium Society, Peking, composed of American, British, Chinese, Spanish and Danish representatives has presented a strong indictment to the United States congressional party now in China, against the practice of the United States Government of permitting the manufacture and exportation of unlimited quantities of morphin and other opium derivatives. It is asserted that the Japanese import great quantities of habit-forming drugs from America and sell them in China in violation of the international agreement to stop the sale of narcotics to Chinese. The society also makes specific recommendations that American laws be revised to prevent exportation of drugs to China and to prohibit the shipment of these drugs to other countries whence they may be shipped to China.

The German Krankenkassen and the Friedmann Remedy for Tuberculosis.—The *Medizinische Klinik* states that a woman insured in the Hamburg krankenkasse insisted on being treated by the Friedmann remedy, and the insurance physician complied, as she paid the 24 marks that the remedy cost. The krankenkasse refused her demand to be reimbursed, saying, "The curative value of the Friedmann remedy is by no means established. It is generally known that in medical science and practice the remedy is predominantly regarded with skepticism and its curative value as problematic. As long as new remedies are in the tentative stage, the krankenkassen are not obliged to give them to the insured. They can use only such remedies as in the present status of science promise successful results. . . . When new methods of treatment and new remedies have not yet won the favor of the overwhelming majority of the professors and practitioners who have been testing them with scrupulous care, the krankenkassen cannot be expected to apply these measures, and the insured persons might well object to serve as test subjects for trying the efficacy of the remedies in question, the harmlessness of which has not yet been assured."

Epidemic Diseases.—On August 20, an increase in the number of cases of yellow fever in Vera Cruz was reported, with an average of five new cases daily.——A severe cholera epidemic is said to exist in Cheng Tu, Szchuan Province, West China.——Cablegrams on August 11 from Seoul stated that 3,125 cases of cholera have been reported in Korea with 600 deaths.——It is reported that all of the quarantine material of the American typhus expedition in Poland which has been cooperating with the Polish workers, has been seized by the Bolsheviki, thus doing away with all possibility of protection against the introduction of typhus fever from Russia.——Batum reports a cholera epidemic, with about fifty new cases daily and with a mortality of about 50 per cent.——Cholera has disappeared from Sebastopol and the Crimea, but typhus fever is reported to be assuming epidemic proportions in all the Crimean cities.——An epidemic of dysentery is reported by the Red Cross to have broken out in Poland where four fifths of those arriving on sanitary trains are said to be suffering from the disease.——Four cases of bubonic plague are said to have been recognized in Paris hospitals, and one death has occurred in a suburb of Paris.

Deaths in Other Countries

Dr. **Adam Politzer,** aged 85, the Hungarian otologist who shed luster on the Vienna medical school for so many years. He began his work there in 1861 and retired in 1907. (See Vienna Letter, this issue.)——Dr. **Elisabeth V. C. Hamburger,** a practitioner of Copenhagen and communal venereologist, aged 65.——Dr. **Ernesto Delgado,** a well known surgeon of Caracas, Venezuela, died at New York after an operation, aged 54.

CORRECTIONS

Northeastern Arkansas Society Officers.—The report of the Northeastern Arkansas Medical Association published in THE JOURNAL, July 24, page 250, omitted the name of Dr. Joel A. Banks, Blytheville, who was elected president and erroneously named Dr. E. L. Fern, Osceola, as president instead of vice president.

Hanzlik Appointment.—Dr. Paul J. Hanzlik, Cleveland, calls attention to an error in the Ohio news in THE JOURNAL for August 21, in which it was stated that Paul J. Hanzlik had been promoted from assistant professor to professor of pharmacology. His promotion was from assistant professor to associate professor.

Government Services

Typhoid Fever in the Army

Since October, 1919, there have been only four cases of typhoid fever among troops. The last case was just reported from Fort Slocum, a recruit depot, and it is believed that the recruit was admitted to the army during the incubation period. The Surgeon-General has not yet received information whether the victim acquired typhoid fever after inoculation with the triple vaccine.

Army Portable Field Laboratory

Surgeon-General Ireland has approved a portable laboratory for use in the field. The equipment has been developed as a result of experiences obtained in the American Expeditionary Forces in France, and consists of a series of small chests containing glassware, chemicals, apparatus and instruments, incubator, autoclave, hot air sterilizer, supplies for work in histopathology, clinical microscopy, water analysis, bacteriology, venereal disease control and water chlorination.

Typhus Fever in Eastern Europe

Lieut.-Col. Harry Plotz, M. C., U. S. Army, has just returned from Europe after spending several months in investigating the spread of typhus fever in infested regions. Typhus fever is raging in Poland, Southern Russia and Eastern Europe in general, and unless it is checked, there is danger that it will spread over all Europe. It is suggested that the League of Nations initiate a campaign against the epidemic in Poland by sending steam and hygienic bathing apparatus into that country.

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

ILLINOIS
Chicago—Shale, R. J.
Quincy—Bitter, A. H.

MICHIGAN
Detroit—Perkins, R. A.

NEBRASKA
Omaha—Condy, C. C.

NEW YORK
Albany—Craver, L. F.
Oneonta—Becker, P. B.
Oswego—Powers, R. T.

PENNSYLVANIA
Conoquenessing—Christie, R. M.
Langhorne—Walter, T. A.
Philadelphia—Carp, I. J.

TENNESSEE
Como—Rodgers, C. W.

VERMONT
Burlington—Leffler, H. H.

Foreign Letters

PARIS

(From Our Regular Correspondent)

Aug. 13, 1920.

The Student's Record of Educational Attainments

Beginning with the opening of the school year 1920-1921, every student desiring to matriculate or register in a faculty or school of higher education must come provided with a special university booklet (livret). This livret will contain entries indicating (1) the civil status of the student with his legal signature (space will be reserved for the student's photograph); (2) the proofs or grades which at the time entitle the student to admission to the faculty or school, showing the place and date of school attendance, the teachers and institutions, the marks obtained, and an attestation that authenticated documents were presented to secure the particular entry in the livret; (3) scholarship, successive matriculations, regular or cumulative terms, and exemptions and equivalents; (4) the courses of study, lectures, laboratory exercises and practical work pursued by the student (at the demand of the student, a record of his diligence may be added over the signature of the professor or the director of the institute or school), and (5) the exeat, completion of studies and transfer of the records. Should any livret contain avowedly false entries, it will be revoked without prejudice to any disciplinary measures that it may be desired to take against the culprit.

The Value of Prophylactic Injections of Antitetanic Serum

The value of prophylactic serotherapy of tetanus still constitutes a timely subject, and was recently a topic of discussion at the fifth International Congress of Surgery.

Dr. Sieur, medical inspector of the Service de santé militaire, reviewed the arguments that have been advanced against this measure. He acknowledged that the serum has been without efficacy in certain cases, but these cases are extremely rare. In fact, among several hundred thousands of wounded, Sieur could find only a very small number of cases of tetanus, and in these the greater the number of injections, the lower was the mortality rate. In patients with two protective injections, the percentage of deaths was 77; with three injections, 33. Besides, it should be taken into consideration that in inoculated individuals the tetanus is often partial or mild (tétanos fruste) and susceptible of cure.

Dr. Pothérat, surgeon to Paris hospitals, while admitting the value of prophylactic serum injections, thought that the treatment did not suffice to prevent the onset of tetanus. The serum is not, in fact, a vaccine, and its rôle is to neutralize a given quantity of toxin, nothing more, and the doses that can be injected are strictly limited in view of the danger of anaphylaxis. Therefore, local treatment of the injured focus, where the toxin is elaborated, is the very basis of all prophylactic measures. It was due as much to insufficient treatment of the wound as to the absence of a sufficient quantity of serum that we saw so many cases of tetanus early in the war. From a therapeutic point of view, this surgical measure is likewise the essential element. Of other measures, Baccelli's method and chloral are perhaps more efficacious than serotherapy.

Dr. Arnd of Berne announced that for more than fifteen years he made systematic prophylactic injections of serum (in three doses on the first, fifth and tenth days) and débridement of the wound. Nevertheless, he has had three cases of tetanus, and each time the necropsy revealed that this was due to insufficient cleansing of the wound area and the retention of a small foreign body, enough to explain the development of the tetanus.

Reparative and Orthopedic Surgery

From many points of view, the World War yielded an experience which by its very magnitude surpasses almost all that hitherto could possibly be imagined. Thus, surgeons found themselves facing numbers and varieties of wounds such as at no previous time in history were ever seen or even approached. It would have been regrettable if the enormous experience acquired in the course of the war had been lost to humanity, and this all the more since in times of peace it has extensive application in the treatment of industrial accidents. A certain number of eminent surgeons therefore conceived the idea of collecting the surgical lessons of the war in one large treatise, "Chirurgie réparatrice et orthopédique," published by Masson et Cie, Paris, under the editorial supervision of Professors Jeanbrau (Montpellier), Nové-Josserand (Lyons) and Ombrédanne (Paris). Among the forty odd contributors are found the names not only of prominent surgeons but also of neurologists, radiologists and other specialists, for as a matter of fact wounds may involve all of the great systems of the body, especially the nervous system. It is precisely this that lends interest to the two volumes, for all that relates to the subsequent evolution of wounds is covered in the work. From this point of view, the work really fills a gap and is all the more serviceable as the text is supplemented throughout by excellent illustrations.

MEXICO CITY

(From Our Regular Correspondent)

Aug. 15, 1920.

Regulation of Practice

Pursuant to the powers conferred by the constitution on the department of public health, this body has decided that all persons that practice medicine, odontology, obstetrics, pharmacy, veterinary surgery, or homeopathy in the Federal District must register their diplomas with the board of public health, and only those fulfilling this requirement will be authorized to advertise their profession and use professional stationery. Other persons now practicing these professions and lacking diplomas may apply to the university authorities, who will grant them only after examination. Those failing in the examination or not applying for diplomas must state in their advertisements the profession they practice and the fact that they have no diploma. Physicians will not dispense medicines, magistral formulas can be dispensed only in drugstores in charge of a licensed pharmacist; no physician can advertise himself as a specialist unless he possesses an additional diploma for his specialty; medical laboratories cannot advertise unless authorized by the board of public health. Those violating these provisions will be fined up to 500 pesos for the first offense and twice as much in case of a second offense, being in addition deprived of the signs containing their fraudulent advertisement, which will be replaced by a poster stating the action taken. As it will be seen, the regulation is very liberal, as healers and other quacks are allowed to practice. They are only forbidden to advertise with attempt to deceive, so that those going to them will do so with full knowledge. Midwives of dubious reputation, foreign exploiters and native homeopaths have protested bitterly, calling this measure unconstitutional. It is therefore expected that they will appeal to the courts for "amparo" (the Mexican equivalent to mandamus), and the supreme court will finally decide this important public health question. Meanwhile, the municipal authorities of Vera Cruz have adopted a similar measure, and it is expected that soon other state authorities will follow suit.

Nurses' School

In the Hospital of the Red Cross there has been established a training department under the direction of Dr.

Julián Villarreal. Several physicians will instruct all applicants who present themselves in anatomy, physiology, hygiene, transportation and care of patients and wounded, bandaging and handling apparatus, anesthesia, preoperative care, etc. Besides these lectures that will be given once or twice a week, monthly lectures will be given on subjects of general interest. Dr. Gregorio Mendizábal, president of the Mexican Medical Association, will deliver a series of lectures on individual and professional ethics. Those completing the course are entitled to a diploma as Superior Officer of the Mexican Red Cross, and those completing one subject will be given a certificate to this effect.

Dr. Silva's Funeral

Dr. Miguel Silva was a prominent physician who exercised his profession with distinction in the city of Morelia. He made several trips of study to Europe and the United States at his own expense. He won the affection of his fellow citizens because of his charities, and distinguished himself at professional meetings. Finally, he was elected by popular vote governor of the state of Michoacán. To escape the persecutions of the previous administration, Dr. Silva had to exile himself to Havana, where he died from laryngeal cancer, being refused by his political enemies his wish of dying in his own country. Now that conditions have changed, a group of Dr. Silva's admirers and friends have brought his body to Mexico for burial.

Personal

Owing to the fact that the secretary of foreign affairs has been appointed minister at London, Dr. Cutberto Hidalgo, the subsecretary of the department, is acting secretary.—— Dr. Gabriel Garzón has been appointed acting governor of the state of Vera Cruz.——Dr. Alfonso Cabrera, former governor of Puebla, has been placed at liberty.——Dr Carl Michel of the United States Public Health Service continues acting as adviser to the plague committee of Vera Cruz.—— Dr. Alexander Gadsky has been appointed Mexican consul at Antwerp.——Dr. Francisco Valenzuela has been appointed chief of the antiplague campaign at Vera Cruz.

VIENNA

(From Our Regular Correspondent)

Aug. 14, 1920.

Death of Professor Politzer

The sudden death of Prof. Adam Politzer, the aurist, who died a few days ago from apoplexy, came as a severe shock to the large number of friends, pupils and patients, in spite of the age of 86 which he had attained. Politzer's name is known wherever otologists work, his method of air inflation into the tympanic cavity, published by him in 1863, assuring him international fame. But Politzer was more than the inventor of a method of treatment. He was a real pioneer of a new branch of medicine. To him we owe the methodical and scientific investigation of the organ of hearing. He made otology what it is now, one of the most interesting and grateful parts of our art. He taught the methods of anatomic, physiologic and pathologic investigations of the ear; and by selecting from among his pupils those men who were most able and apt to continue such research work, he founded a real school of otology. Between 1870 and 1900, Vienna was the center of medical teaching, and a large proportion of the foreign students came from America and England. In fact, the number of English-speaking students who took classes with "old Politzer," as he was styled, amounts to more than 7,000, and they had the advantage of being taught otology in their native tongue. This clinic, of which he was appointed director in 1870, soon rose to be "the" ear clinic of the continent; at that time this was equivalent to "the world." From his school nearly all the eminent otologists of Europe originated. Alexander and Neumann (Vienna), as well as Bárány, who is now in Sweden and is the bearer of the latest Nobel prize, are well known to every American otologist. Politzer, who was of Jewish origin, swept away by his genius the obstacles placed in his way by racial and national prejudices. After graduating in Vienna in 1859 he went to Germany, where he studied physiology and acoustics with Helmholtz; thence to Paris, where Claude Bernard and König by their teaching had a marked influence on his training, and thence to England, where Toynbee's collection of specimens of the ear were of inestimable value to him. He soon returned to Vienna and was appointed assistant of the pathologic ward and afterward head of the new ear clinic. His invaluable collection of anatomic and pathologic specimens is bequeathed to the ear clinic of Vienna, a gift unique in its universality, while his library falls to the Vienna University Library. Politzer was the author of numerous scientific books and papers; his book on otology is a standard.

Eiselsberg's Sixtieth Birthday

Professor Eiselsberg, who is head of the first surgical clinic of Vienna, celebrated some time ago his sixtieth birthday, and was the object of numerous honors and festivities. Eiselsberg plays an eminent rôle in Vienna. He is "the" professor of surgery, both for students and for patients, and holds a commanding position in the medical faculty of Vienna. In fact, nothing important takes place in medical life here without the professor's opinion having been ascertained. He is esteemed by all comrades, and the profession owes him much gratitude for his incessant endeavors to lighten the economic burdens of our poorer brethren by obtaining for them help from all quarters. He has made his clinic a model institute. He was an assistant of Billroth, and has succeeded in keeping up the surgical tradition of Vienna by his surgery of goiter, of intracranial diseases and of the medulla. During the war he was engaged in the organization of surgical units for the mountain campaign.

An Outbreak of Dysentery

A serious outbreak of dysentery that occurred recently in the barracks of the metropolitan police demanded very stringent measures to suppress it. About 100 persons obtaining their meals from a mess in the house were attacked, and five died, among them two chief officers of the police. The investigations resulted ultimately in the detection of a carrier, a cook who harbored the ameba, without having been manifestly ill. Lack of proper cleanliness, as well as unsatisfactory quality of the food used for the preparation of the meals, were also found, and the outbreak was speedily controlled thereafter. This is the first instance of an outbreak of dysentery in this city.

Reduction of Military Hospital Beds

Among other arrangements necessitated by the demobilization, the reduction in the number of military hospitals was one of the most necessary and most difficult items. During the last months of the war, when the morale of the soldiers was slowly but surely breaking down, the hospitals were filled with malingerers; and when the upheaval ensued and the old empire broke asunder, those who by some means or other had managed to come into a hospital were not willing to leave it. Later on the invalids regarded it as their privilege to stay in a hospital, and every soldier who during the war had been wounded or sick claimed to be an invalid and claimed a pension. The abuse was really embarrassing. Especially the real and would-be invalids had organized and formed a powerful union, who demanded certain privileges for themselves—and obtained them. They refused to be dis-

missed from hospitals, they chose their own hospital staffs and clerks, and on dismissal—when this was enforced—they obtained substantial "grants." Thus, in the small state now representing Austria, no less than 34,000 hospital beds were occupied by sick military patients, who preferred to stay there because they found no work or were unable to work—for there were real invalids among them too. The present government faced a serious position in this respect, and the present minister of health, Professor Tandler, succeeded by tact and energy and much good will to reduce the number of the military hospitals. Gradually wards were evacuated, patients concentrated in large hospitals, and work for the would-be invalids provided; and the report of the board of health, published a few weeks ago, shows that now only about 8,000 beds are occupied by bona fide military patients. Still the proportion of clerks and staff to the patients is unsatisfactory, being one to every three patients. Gradually, however, these disproportions will be done away with, and normal conditions may be expected soon, with a beneficial influence on both the morale of the population and the finances of the state.

LONDON

(From Our Regular Correspondent)

Aug. 7, 1920.

Bill to Control the Sale of Proprietary Medicines

A bill to control the sale of proprietary medicines, which previously has been so unfettered that bogus claims of all sorts to cure the most serious diseases have been freely advertised, has received a second reading in the House of Lords. The bill is only a reproduction of recommendations made by a select committee of the House of Commons, which reported in August, 1914, just before the declaration of war. The committee found that there was a large and increasing sale of "patent" and proprietary remedies and appliances and medicated wines. These differed widely in character, and included: (*a*) genuine scientific preparations; (*b*) unobjectionable remedies for simple ailments, and (*c*) many secret remedies, making grossly exaggerated claims of efficacy, causing injury by leading sick persons to delay in securing medical treatment, containing in disguise large proportions of alcohol, sold for improper medication, professing to cure diseases incurable by medication, or essentially or deliberately fraudulent. The committee declares that the last class (*c*) constitutes a grave and widespread public evil. The existing law is chaotic and has proved inoperative in regard to these matters. Amendment of the law is urgently needed. The government now proposes that no one shall manufacture or prepare for sale any proprietary medicine or any proprietary surgical appliance unless (1) he is registered under the act for the purpose; (2) the medicine or appliance is registered under the act, and (3) in the case of a medicine, it is compounded of the ingredients and in the proportions specified, and in the case of an appliance corresponds to the specimen furnished. Security against divulgence of the ingredients of a medicine to the public is granted by the ministry of health, keeping a confidential register. Registration is to be signified on the medicine or article by a number. The prohibition of sale save under these conditions is to operate six months after notice in the London *Gazette* that applications for registration will be received. After six months from the passing of the act, it shall not be lawful to sell any medicine or surgical appliance purporting to prevent cure or relieve any of these diseases: cancer, consumption, lupus, deafness, fits, epilepsy, amenorrhea and other diseases peculiar to women, diabetes, paralysis, locomotor ataxia, Bright's disease and rupture. Power is reserved to the minister to extend the schedule. The advertisement of any article which might be used to induce abortion is prohibited. Misleading advertisements are dealt with severely. The following are prohibited: invitations by correspondence to take up remedies; the use of fictitious or misleading testimonials; the issue of a statement that a medicine or appliance is recommended by a duly qualified physician without including in the particulars names and qualifications, and in the case of a living person, the address of the physician; the publication of a false statement that a medicine or appliance was discovered, invented or compounded by a physician. The minister of health may, if he thinks fit, direct that the name and quantity of any poisonous or dangerous drug forming an ingredient in any registered medicine shall be stated on the vessel or package, and require that every proprietary medicine containing more alcohol than he deems to be properly contained therein shall show on its vessel or package the proportion of alcohol contained. Another regulation prohibits any statements being made by an owner that a medicine or appliance possesses any therapeutic qualities other than such qualities as are specified in the register. The minister is to have authority to remove any medicine or appliance from the register, subject to appeal to the high court against such removal. The penalties laid down for "misdemeanors" under the act are imprisonment for a term not exceeding twelve months or a fine not exceeding $500, or both such imprisonment and fine. If a person is found guilty of any offense under the act he is to be liable on summary conviction to a fine not exceeding $100, with a further fine not exceeding $25 a day for each day during which an offense continues after conviction.

In introducing the bill, Viscount Astor, undersecretary for the ministry of health, said he was told that the press was going to oppose the bill. He was well aware that it derived a large revenue from advertising "patent" medicines, but he had too high an opinion of it as a whole to believe that it would try to stop this bill. It, like the state, had the duty to prevent fraud and dangers to health arising from the sale of these remedies. The bill would enable the government to deal with the real scandal and bring England into line with other countries. The consternation with which this bill is viewed by the interests affected is shown by two articles which have appeared. The press, however, has on the whole had sufficient intelligence not to be led into such demonstrations. "A Bad Little Bill," is the title under which the *Daily News*, the leading liberal organ, describes the measure. It complains that "persons without the means of adopting the expensive treatment cannot get even temporary relief at a pharmacist's shop for cancer, consumption, lupus, diabetes, Bright's disease." The capacity of the pharmacist to furnish such relief is evidently taken for granted! The *Daily Express*, an organ in the opposite political camp, heads its article "Earthquakes for Pills," and describes the bill as "reeking of bureaucratic tyranny." It complains that "no vender of patent medicines may enter into correspondence with any sufferer in order to give advice." Of the value of such advice, the writer is discreetly silent.

The Osler Memorial

In March last it was determined, at a large and representative meeting of members of the University of Oxford and of the medical profession, to raise a fund to the memory of Sir William Osler. It was held that the most appropriate memorial would be an Osler Institute of general pathology and preventive medicine. Under the patronage of the Prince of Wales, the American ambassador, the high commissioner for Canada, and others, an appeal is now being made for funds. It is stated that such a memorial would have been appreciated by Osler himself, for, beginning his life with his chief interests directed toward pathology, he ended with an enthusiastic belief in the future of preventive medicine. It

would be a fitting expression of the world's indebtedness to him alike as a physician, a teacher and an investigator, while it would at the same time be, what he himself would greatly have valued, of practical and daily utility to the advance of medical science. Osler was a great and good physician, but he was more than this, and for future generations of students there could be no better example. He recognized no breach between science and the humanities. His influence on the progress of medicine was profound, not only from his own contributions to knowledge, but also from his genius in promoting, distributing and organizing it. Combining with this a wide knowledge of human thought, a constant striving for the welfare of his fellow men, an unlimited capacity for friendship, a loftiness of ideal and a singular fortitude in his outlook on life, he justified the universality of those tributes paid to his memory which are still fresh in men's minds. A member of a distinguished Canadian family, he had the unique experience of exercising his wide and beneficent influence in Canada, in the United States and in England, in each of which countries he was successively a professor of medicine; and few men can have done more to foster and consolidate friendship between them. This international character of his career and the range of his knowledge and sympathies merit a conspicuous and permanent tribute, for the remembrance of Osler's life-work is singularly fitted to bring home to the minds of all—whether our own undergraduates, Rhodes scholars or foreign students—the fact that knowledge knows no boundaries.

BERLIN

(From Our Regular Correspondent)

Aug. 6, 1920.

Deleterious Influences Operating Against Medical Science

German medical science is having some serious difficulties because of the financial stringency. Complaints are heard on all sides that the necessary means for conducting experimental investigations are not available, owing to the high prices of laboratory animals and other supplies. The appropriations allotted to many state institutions are sufficient only to cover the salaries of the employees and the cost of coal. The libraries are laboring under identical difficulties. Because of the high cost of paper and printing, the journals were forced to increase their subscription rates considerably. The four largest German medical weeklies today cost almost four times as much as before the war (80 marks as against 24), and books sell at the rate of 100 marks or more for each volume. The increased prices are especially noted in respect to foreign periodicals because of the unfavorable exchange rates. The annual subscription price of the *British Medical Journal* lately represented 1,000 marks on the basis of current exchange. It might readily be conceived that not even the libraries, and certainly no individuals, are in a position to expend such tremendous sums for journals, and the number of subscriptions for foreign periodicals at the Berlin Staatsbibliothek has consequently dropped from 3,000 to 250. Several hundred German publications, among them a considerable number of medical journals, were forced to discontinue during the year. The financial difficulties are even threatening the very existence of Frankfurt University, which was founded during the war by an endowment of 12 million marks from the corporate bodies of Frankfurt and wealthy citizens. Through the impoverishment of German communities and the decrease in private fortunes (a process which will be intensified by the enormous taxes and the so-called national emergency impost), the income of the university has been reduced considerably. The deficit for 1920 was estimated at 600,000 marks, and this will be increased to 1,500,000 through operation of a new ordinance regulating salaries. The government has temporarily granted the necessary financial assistance to tide the university over its present difficulties, but nevertheless the medical school will be forced to curtail certain activities. At several hospitals the number of beds has been reduced, while some small hospitals have been closed entirely.

CURTAILMENT OF SCIENTIFIC INVESTIGATIONS UNDER THE NEW GOVERNMENT

These lamentable conditions governing German medical science are due only in part to the pecuniary impoverishment. Political affairs constitute an additional basis for dissatisfaction. The revolution did not give Germany a purely democratic republic, but one which is overwhelmingly social democratic. The social democratic party is composed almost exclusively of laborers, and this class has naturally become the ruling element and determines to a great extent the political and economic status of Germany. Psychologically, it is readily conceivable that those circles of the population whose political and economic rights were greatly restricted under the old régime are striving to take full advantage of their altered status as masters. This occurs both intentionally and unconsciously. After the revolution, the workingmen became fully conscious of the fact that they constitute the most important class of the populace and that their interests take precedence over all others. In consequence of this concept and of the lust for power, manual labor now outranks brain-work, and the demands of science have become subordinate to those of day laborers. Intelligent leaders of the social democratic party have repeatedly complained publicly that the revolution has degenerated into a wage movement.

If now the appropriations for scientific investigations are curtailed by these political upheavals, responsibility for other injurious effects on German science must be ascribed to the same conditions. Under the parliamentary system that has been introduced, the ministerial appointments are based on the relative strength of the various political parties that make up the government. The social democratic party consequently controls the majority of the ministries, and since the intellectual and specially talented classes are not very numerous in its ranks, the men in power have hitherto had little sentiment for science. If their sense of responsibility and knowledge is inversely proportional to their sense of power, then science and her votaries will suffer as a natural consequence.

FRIEDMANN AGAIN

This lamentable result is noticed especially in Prussia. The minister of public instruction is a social democrat by the name of Haenisch, without any academic training and formerly editor of a newspaper. To him may be attributed the unfortunate Friedmann affair. In 1917, as democratic representative in the Prussian diet, Haenisch made the following remarks regarding the generally condemned Friedmann "cure."

"I call attention also to the fact that open humbuggery, such as the Friedmann tuberculosis remedy which was introduced to the world several years ago by loud advertising tomtom, has again received special encouragement from university circles, and that such ventures have repeatedly been shaped under university authority. Such frauds as this alleged tuberculosis remedy almost invariably end in miserable collapse, but they have one advantage in that they meanwhile make the discoverer a wealthy man."

As minister of public instruction, Haenisch supposedly now feels called on to make retribution for the wrong which was formerly done to Friedmann, and to promote his interests personally and publicly. It must be admitted for Haenisch that he is acting in good faith and that he became convinced through the judgment of various men of science. Late in 1918, Kraus, the Berlin clinician, in his characteristically impulsive manner, published an article

in which he reported permanent beneficial effects from the Friedmann treatment in some cases of pulmonary tuberculosis. An even deeper impression was made on Haenisch by an offer from Professor Kruse, a noted bacteriologist and director of the Leipziger Hygiene Institut, to take charge of the production of the Friedmann vaccine. In addition to this, two prominent physicians, Professor Schleich of local anesthesia fame, and the gynecologist, Professor Dührssen, came out with uncritical enthusiasm in its favor. What other means were employed to influence Haenisch cannot be definitely determined. At any rate, Friedmann, of whom some assert that he is more of a business man than a paranoiac, while others maintain the reverse, has lately been appointed extraordinary professor at the University of Berlin against the explicit vote of the medical faculty. A portion of a large military hospital has been placed at his disposal for clinical purposes, and he has erected an immense sanatorium in a Berlin suburb for the treatment of private patients. Haenisch therefore succeeded in doing for Friedmann what he severely condemned in the same man three years before. There is, in fact, a constant dispute regarding the scientific and practical value of the Friedmann remedy; but the opinion of those who from the very first were skeptical is gradually being shared by everybody. Some successes cannot be combated; still, they are no greater than the results attained with other specific measures against tuberculosis. The best results have followed its use in surgical tuberculosis, in which nearly the same results are obtained by climatotherapy, phototherapy and other measures. The most important fact is that the experiments conducted by reputable investigators with the turtle tubercle bacillus led to mishaps. Some weeks ago, Professor Selter, director of the hygienic institute at Königsberg, reported in the *Deutsche medizinische Wochenschrift* that there is no difference in the course of tuberculosis in guinea-pigs treated with Friedmann's turtle vaccine and in the controls. The Friedmann bacillus did not, therefore, develop a homologous antigen reaction, although the experiments were conducted under as favorable conditions as possible. Selter concludes, therefore, that the Friedmann bacilli are ordinary bacilli from cold blooded animals which act only as acid-fast saprophytes toward human beings or tuberculous warm blooded animals. Treatment with the Friedmann remedy would, then, correspond to a nonspecific vaccine treatment. Even less favorable was the result of the clinical work of Professor Bacmeister of Freiburg, published in the same number. He was unable to determine either a permanent curative action in any of his patients, or any lasting increased immunity to tuberculosis. He does not think it has been proved that the remedy is harmless. A revolution in the treatment of tuberculosis is not to be expected from the Friedmann method, and the efforts of its originator to force this revolution by exclusion of methods of treatment hitherto found effective are unjustifiable and constitute a serious danger to tuberculous patients. What lends particular spice to Selter's article is the fact that he is one of Kruse's most distinguished pupils and in this matter he takes issue with his master. Last year Kruse, with a deplorable lack of discrimination, warmly commended the Friedmann treatment, and in his animation he went so far as to ascribe partisanship and sordid motives to J. Schwalbe, editor of the *Deutsche medizinische Wochenschrift,* who at the time critized severely Friedmann's appointment as extraordinary professor. This action of Kruse met with universal condemnation, more especially because it was felt that since he had a financial interest in the exploitation of the Friedmann remedy (it is hinted he receives at least 50,000 marks per annum) he should not have entered into a personal and scientific defense of an unfounded method. It is very strange that Kruse has never published the results of his experimental studies on the protective and therapeutic relations of the Friedmann turtle bacilli, which were definitely planned two years ago. We are anxiously waiting to see whether he will have the courage to publish unfavorable results and in this way to disavow his former contentions.

OPPOSITION TO SCIENTIFIC MEDICINE

The Friedmann case is not the only indication of the arbitrary and unscientific spirit of the Prussian minister. He attempted to use his personal influence in getting a professorial appointment at the University of Berlin for a former police physician, Dreuw, who because of his inordinate abuse of salvarsan in the daily papers of low class was in such bad repute that the columns of the medical journals were closed to him for some time back. Because of the opposition of members of the faculty and other men of influence, this attempt was unsuccessful. It is tragicomic to observe that Dreuw is now attacking his erstwhile patron in the same lay papers, and this because of the latter's favoritism for Friedmann. The fondness of many social democrats (owing to their lack of biologic and other education) for all opponents of scientific medicine determined the minister's efforts in the interests of naturopathy, and so he lately appointed a naturopath and former country schoolteacher to succeed Professor Brieger as director of the hydrotherapeutic institute at the University of Berlin. It is to be hoped that there will soon be an end of this régime, which is doing injury to the reputation of medicine. The Prussian parliamentary elections which are scheduled for this fall may be expected to bring results similar to those in the national elections several weeks ago when the citizenry, especially its intellectual elements, awoke and restricted the unjustifiable influence of the social democrats on the political, scientific and social life of Prussia to its proper bounds.

Medical Activities of the Department of Social Welfare

The Kaiser Wilhelms Academy has been incorporated in the social welfare department (Heilfürsorge-Abteilung) of the ministry of labor, and with this connection it occupies an important sphere of activity. Its excellent facilities for scientific and practical investigations and education will hereafter be devoted to the special cause of social medicine in the broadest sense. Its library of 85,000 volumes, one of the largest medical collections in Europe, has been made available to the medical centers throughout Germany. The statistical division will make a statistical study of all questions relating to social medicine. The chemical division will undertake examination of textiles, drugs, pharmaceuticals and other supplies for the hospitals and medical centers. The sanitary and bacteriologic laboratory will make diagnostic examinations for the hospitals, including Wassermann tests for patients within the medical district of Greater Berlin, and it will conduct physiologic and clinical investigations on subjects essential to pension adjudications, such as on fatigability after injuries, tendon transplantation and the psychologic after-effects of brain injuries, and on subjects dealing with social hygiene. In the division of pathologic anatomy, the injuries and diseases of war will be subjected to systematic study with special reference to occupational injuries and their late results; a large and possibly unique collection of specimens and models is at the disposal of the division. The physical division has control of an enormous accumulation of roentgenograms, and it will subject these to a critical evaluation with a view to creating a collection for jurisprudential and educational purposes. At the present time, this division is also making roentgen-ray examinations of tuberculous children in cooperation with school physicians. Although naturally these establishments and their equipment are primarily at the disposal of the social welfare department and its physicians, they will also be available to the other medical circles.

Marriages

LIEUT.-COL. ROBERT URIE PATTERSON, General Staff (M. C.), U. S. Army, to Miss Eleanor Reeve of Brandywine, Md., in Washington, D. C., August 14.

EDWARD CARY RUSHMORE to Miss Olive Louise Williams, both of Tuxedo, N. Y., at Cobourg, Ont., August 16.

HAROLD CHARLES GOLLY, Utica, N. Y., to Miss Beatrice C. De Garmo of New York City, Dec. 16, 1919.

JOHN WILLIAM DREYER to Miss Rhoda Wheeler Denney, both of Aurora, Ill., August 21.

HERMAN CHARLES FURMAN to Miss Christine A. Pfenning, both of Brooklyn, August 18.

WILBERT C. WARNER, Cleveland, to Miss Bessie Dickles, at Pelham, N. Y., August 8.

Deaths

Walter Wesselhoeft, Cambridge, Mass.; Harvard University Medical School, 1859; aged 82; professor of clinical medicine in Boston University Medical School until 1909 and since that time emeritus professor; consulting physician to, and a member of the board of trustees of, the Massachusetts Homeopathic Hospital; died at his summer home at Sandwich, Mass., August 17.

Everett J. Brown Ⓕ Decatur, Ill.; Northwestern University Medical School, Chicago, 1888; aged 55; for six consecutive terms treasurer of the Illinois State Medical Society; medical director of the Protective League Life Insurance Company; one of the most prominent internists of central Illinois; died, August 30, from spinal disease, after an illness of several months.

Richard A. Nunn, Portland, Ore.; University of Dublin, Ireland, 1883; aged 61; professor of diseases of the eye, ear, nose and throat in the University of Oregon Medical School, Portland; who served during the World War in the Royal Army Medical Corps in France and England; was found dead at the home of his brother in Estacada, Ore., August 17.

Wilbur Daniel Cook, Chicago; Hahnemann Medical College, Chicago, 1900; College of Physicians and Surgeons, Chicago, 1909; aged 57; a member of the Illinois State Medical Society; for many years attending physician to the John Worthy School; a specialist in diseases of the eye, ear, nose and throat; died, August 23, from cerebral hemorrhage.

Minerva M. Newbecker, Berkeley, Calif., formerly of Ord, Neb.; Northwestern University Woman's Medical School, Chicago, 1893; aged 69; for six years physician to the woman's department of the Nebraska State Hospital for the insane, Asylum; died, about August 7.

Albert Laurendeau, St. Gabried de Brandon, Que.; Ecole de Médecine et de Chirurgie, Montreal, 1879; aged 63; vice president of the College of Physicians and Surgeons of the Providence of Quebec and for several terms president of the county medical society; died, August 19.

Haley P. Cartwright, Bowling Green, Ky.; Vanderbilt University, Nashville, Tenn., 1882; University of Louisville, Ky., 1883; aged 71; a member of the Kentucky State Medical Association; died at the home of his daughter in Helena, Ark., August 23, from angina pectoris.

John Cain Adams Ⓕ Superior, Wis.; Bellevue Hospital Medical College, 1888; aged 53; acting assistant surgeon, U. S. Army, from 1889 to 1894, with service during the Indian wars; local surgeon for the Northern Pacific system; died, August 23, from cerebral hemorrhage.

Herbert Terry Ⓕ Providence, R. I.; Harvard University Medical School, 1880; aged 65; a specialist in neurology; a member of the staff of Rhode Island Hospital since 1883; a member of the staff of the Providence Lying-In Hospital from 1895 to 1902; died, August 25.

Calvin Worchester Day Clark, Toronto, Ont.; Queens University, Kingston, Ont., 1885; L. M. & S. Apothecaries' Society of London, 1886; died in the General Hospital, Toronto, July 15, from myocarditis following a gastro-enterostomy for duodenal ulcer.

Frederick Luke Classen, Albany, N. Y.; Albany (N. Y.) Medical College, 1881; aged 63; a member of the Medical Society of the State of New York; died in the Albany Hospital, August 13, four days after an operation for acute appendicitis.

William Henry Furness III, Wallingford, Pa.; University of Pennsylvania, Philadelphia, 1891; aged 52; a fellow of the Royal Geographical Society, an explorer and author of a standard work on the head hunters of Borneo; died, August 11.

Henry W. Roby, Topeka, Kan.; Hahnemann Medical College, Chicago, 1877; aged 78; a member of the staff of Christ's Hospital; a veteran of the Civil War and afterward a court reporter in Kenosha and Milwaukee, Wis.; died, August 22.

John S. Walbridge, Berlin, Wis.; University of Michigan, Ann Arbor, 1874; University of the City of New York, 1881; aged 70; a member of the State Medical Society of Wisconsin; died, August 20, from cerebral hemorrhage.

Daniel P. Murphy, Elmira, N. Y.; University of Buffalo, 1902; aged 46; local surgeon for the Delaware, Lackawanna and Western Railroad; a trustee of St. Joseph's Hospital, Elmira; died, August 17, from heart disease.

Winthrop F. Thatcher Ⓕ Oberlin, Ohio; University of Pennsylvania, Philadelphia, 1891; aged 45; while driving over a grade crossing, near Castalia, Ohio, August 12, was struck by an interurban car and instantly killed.

George H. Alden, Indianola, Iowa; State University of Iowa, College of Homeopathic Medicine, Iowa City, 1902; aged 44; a member of the Iowa State Medical Society; died, August 10, from carcinoma of the lung.

Edward Wagner, New York City; College of Physicians and Surgeons in the City of New York, 1891; aged 51; a member of the Medical Society of the State of New York; died, August 14, at Warrensburg, N. Y.

Jacob Wilbert Light, Kingman, Kan.; Pulte Medical College, Cincinnati, 1884; aged 60; a member of the Kingman County Medical Society; died in Santa Monica, Calif., August 12, from heart disease.

William Hervey ReMine Ⓕ Lieut., M. C., U. S. Army, San Francisco; Medical College of Virginia, Richmond, 1916; aged 25; died in the Letterman General Hospital, San Francisco, August 13.

William Steed Florence, New York City; Columbia University College of Physicians and Surgeons, New York City, 1920; aged 23; an intern in Bellevue Hospital; died, August 22.

Alexander K. Berry, Burlington, Kan.; State University of Iowa, Iowa City, 1894; aged 68; while delirious, fell from a window of his house, August 18, and died, August 20.

Christian Frederick John Laase Ⓕ New York City; University of the City of New York, 1894; aged 50; visiting surgeon to St. Mark's Hospital; died, August 24.

Milton Wykoff White, Sioux City, Iowa; State University of Iowa, Iowa City, 1882; Bellevue Hospital Medical College, 1888; aged 64; died, August 11.

Thomas J. Washam, Millsap, Texas (license, Texas); aged 41; was found dead at Weatherford, Texas, August 13, from a gunshot wound of the head.

Adoniram J. Osborne, Binghamton, N. Y.; Long Island College Hospital, Brooklyn, 1878; aged 74; died, August 15, from cerebral hemorrhage.

James A. Barbour, New London, Conn. (license, Connecticut State Board of Health, 1893); aged 72; died, July 28, from heart disease.

Arthur M. Shabad, Chicago; College of Physicians and Surgeons, Chicago, 1894; aged 52; died, August 23, from angina pectoris.

Josiah Ginsburg, Chicago; University of the City of New York, 1888; aged 56; died on a street car from heart disease, August 22.

Milton Cooper Egbert, Pittsburgh; Western Homeopathic College, Cleveland, 1860; aged 82; died, May 21, from senile debility.

George Henry McLin, Huntington, Ind.; Hahnemann Medical College, Philadelphia, 1871; aged 77; died, August 17.

Frank Howard Miller, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh; aged 55; died, August 24.

Edwin S. Detweiler Ⓕ Chicago; Rush Medical College, 1888; aged 62; died, August 26, from carcinoma.

Michael Glennon, Stoughton, Mass.; Bellevue Hospital Medical College, 1883; aged 65; died, July 30.

Perry Gregg, Dayton, Ohio; Toledo (Ohio) Medical College, 1883; aged 80; died, August 6.

Ⓕ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

"SECRET REMEDIES IN AMERICA"

What the London Lancet Thinks of the Propaganda for Reform

Largely through the efforts of the British medical profession, there is at present before Parliament a bill known as the "Proprietary Medicines Bill" that has for its object the same protection of the English public against fraudulent and sophisticated drug products as is given the American public under the National Food and Drugs Act. The London *Lancet* in its issue of August 14, under the caption quoted above, discusses editorially the federal Food and Drugs Act of this country and the part that the American Medical Association had in shaping public opinion to support such a bill. We quote:

The Proprietary Medicines Bill has passed the Committee stage in the House of Lords, and this should turn English legislators to examine the success which has crowned the efforts of American reformers in a similar direction during the last 15 years. By the Federal Food and Drugs Act the sale of "misbranded" drugs became illegal. For five years it was held that a drug was misbranded if the description published on the package or label claimed a cure for diseases which in effect the drug did not cure. Later a decision of the Supreme Court confined this term to descriptions of composition and sources of origin. [Later still the Sherley amendment restored this power and penalized false and fraudulent claims for therapeutic effects.—ED.] But during those five years many significant changes appeared on the labels of proprietary medicines. California Syrup of Figs, which has preserved its old description in Great Britain even to the present day, was known in America, from the passing of the Federal Act, as Syrup of Figs and Elixir of Senna. The American also is told that the mixture contains 6 per cent. of alcohol—a fact of which many Englishmen are doubtless in ignorance. In other cases the change was more radical. The labels on Dr. Kilmer's Swamp Root as sold in England continued to assert:

"It cures enlargement of prostate gland, seminal weakness, spermatorrhea, generative debility, and general languor. Drives malarial poison out of the system . . . purifies the blood."

In America the following modest claim had to be substituted:

"It will be found very beneficial in cases of debility."

Such illustrations are instructive as evidence of the possibilities of legislation in combating this dangerous trade. The Food and Drugs Act has been in force for nearly 15 years and there are still many fraudulent and thriving concerns in America, but with English cooperation their days are now numbered. The American federal authorities are also able to prosecute any firm which can be shown to be "conducting a scheme for obtaining money through the mails by means of false and fraudulent pretences, representations and promises." Against such firms a fraud order is issued and the business is closed down. In a leading article which appeared in the *Lancet* of June 12th (p. 1274), before the present bill was introduced, we set out the amazing story of the "Medical Mail Order Frauds" in America, coupling the toast with the name of Sargol.

More than any other single organization the American Medical Association have been responsible for the advances which have been made. Their propaganda began when in the year 1905 they reprinted in booklet form a series of articles which had been appearing in *Collier's*. That was the beginning of their public campaign, although for some years previously they had directed their efforts to eliminating certain proprietary articles from the armamentarium of American practitioners. Since 1905 THE JOURNAL of the Association has published many articles exposing various nostrums and many of these articles have been reprinted. The earlier ones have also been collected into book form.[1] The Association maintains a Council on Pharmacy and Chemistry, which decides not only the therapeutic merits of the advertised prescriptions, but even the more delicate question of whether a harmless concoction is being sold at too high a price. Naturally, a chemical laboratory is kept busy analyzing and researching into the value of various orthodox and unorthodox remedies. In the matter of propaganda—for which a special department has been created—they are careful to insist that their work is educational and not punitive. Their office is richly furnished with references and cross references, stored by the card-index system, and has become a clearing house of information on medical frauds of all kinds. The poster has of late been used with success for popular education. A catalogue of these posters is sent gratis on application as well as a list of the publications of the department.

MORE MISBRANDED NOSTRUMS AND DRUG PRODUCTS

Beecham's Pills.—In January, 1919, B. F. Allen & Co., New York City, shipped to Philadelphia, 660 packages of "Beecham's Pills" which were declared misbranded under the Food and Drugs Act. Some of the claims made for the pills were:

"Beecham's Pills will cure Bilious and Nervous Disorders, Indigestion, Want of Appetite, Fulness after Meals, Vomiting, Sickness at the Stomach, Torpid Liver, Sick Headache, Cold Chills, Flushings of Heat, Lowness of Spirits, etc."

"Females from sixteen to twenty-five are often subject to serious derangements in their usual monthly periods, which are either unduly delayed or are poor and insufficient, and, if left unattended to, are followed by dire results. No medicine can be found to equal Beecham's Pills for assisting Nature at this important time."

". . . the process of eradicating the (syphilitic) poison from the system will be materially assisted by the aid of a perfectly safe but reliable searching, cleansing, purgative medicine; and nothing better for that purpose can be used than Beecham's Pills."

"Women, as soon as they find any unusual delay or departure from regularity at the proper time, should assist Nature by taking two or more Beecham's Pills morning and night."

The pills were declared misbranded because the curative claims made for them were false and fraudulent and "applied to the article with a knowledge of their falsity for the purpose of defrauding purchasers thereof." They were further declared misbranded because some of the packages contained statements indicating that the pills were manufactured in England when as a matter of fact they were made in the United States. The Philadelphia Wholesale Drug Company, which claimed the shipment, withdrew its answer to the libel and judgment of condemnation and forfeiture was entered and it was ordered by the court that the product should be released to the claimant on payment of the costs and the execution of a bond of $1,000.—[*Notice of Judgment No. 7062; issued July 26, 1920.*]

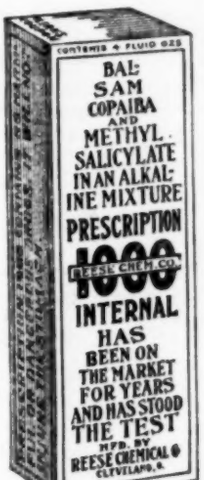
Pike's Liver, Kidney and Stomach Remedy.—In December, 1918, the Pike Medicine Company, Winston-Salem, N. C., shipped 1,186 bottles of "Pike's Liver, Kidney and Stomach Remedy" into the state of Virginia. The government chemists analyzed samples of this nostrum and reported that it was an acid, astringent solution consisting essentially of magnesium sulphate (Epsom salt), ferric chlorid, arsenous acid, hydrochloric acid, coloring matter and water. According to the claims on the label, the preparation would relieve indigestion, biliousness, kidney or bladder troubles, piles, loss

1. Nostrums and Quackery, Chicago: American Medical Association Press. Second edition, 1912. $1.

of appetite and other conditions. These claims were declared false and fraudulent. The Pike Medicine Company having consented to a decree, the court entered judgment of condemnation and forfeiture and ordered that the product should be delivered to the concern after it had paid the cost of the proceedings and executed a bond in the sum of $300.—[*Notice of Judgment No. 7071; issued July 26, 1920.*]

Ergot Apiol Compound.—The Evans Drug Co., Greensburg, Pa., shipped in July, 1918, a quantity of "Ergot Apiol Compound" which was declared misbranded. The product was labeled "Capsules Ergot Apiol Compound, Apiol 5 min., Oil Savin ½ min., Egotin 1 gr., Aloin ⅛ gr." Examination showed a shortage ranging from 18 per cent. to 25 per cent., the analysis disclosing that the product was composed of at least 50 per cent. cotton seed oil and resins from apiol and oil of savin. Misbranding was also alleged because the product was an imitation of, and was offered for sale under the distinctive name of another article; namely, "Ergot Apiol Compound." No claimant appearing for the property, the court on June 30, 1919, condemned it and ordered the United States marshal to destroy it.—[*Notice of Judgment No. 7174; issued August 13, 1920.*]

Prescription 1000.—In January, 1919, a number of packages of "Prescription 1000" consigned by the Reese Chemical Co. of Cleveland, Ohio, were seized by the federal authorities on the charge that the product was misbranded. The nostrum came in two forms, for internal and external use, respectively. The federal chemists reported that "Prescription 1000 Internal" was essentially a slightly alkaline emulsion of copaiba flavored with methyl salicylate; "Prescription 1000 External" consisted essentially of a dilute watery solution of potassium permanganate. The curative and therapeutic claims made for these products were declared false and fraudulent. In June, 1919, no claimant having appeared, the court condemned it and ordered that the product should be destroyed by the United States marshal.—[*Notice of Judgment No. 7206; issued August 16, 1920.*]



Rival Herb Tablets.—The Rival Herb Co., Detroit, Mich., in January, 1919, shipped in interstate commerce a quantity of "Rival Herb Tablets" that were misbranded. The federal chemists who analyzed this nostrum reported that the tablets consisted essentially of aloes, podophyllum resins, capsicum, buchu, and plant extractives; the tablets were coated with calcium carbonate and sugar. They were declared misbranded, first, because they were labeled "chocolate coated" when in fact they were not chocolate coated; second, because they were represented as a remedy for dyspepsia, liver and kidney disorder, rheumatism, stomach trouble, female complaint, eczema, all skin and blood diseases, constipation, loss of nervous energy, and many other conditions. These curative claims were naturally declared false and fraudulent. On June 30, 1919, no claimant having appeared for the property, the court ordered it condemned and forfeited and instructed the United States marshal to destroy it.—[*Notice of Judgment No. 7158, issued August 13, 1920.*]

Wilson's Solution Anti-Flu.—The Cooper Medicine Co., Cincinnati, Ohio, shipped in November, 1918, 900 dozen bottles of "Wilson's Solution Anti-Flu." This was labeled in part:

"A Powerful Antiseptic to be used as a preventive against Influenza, Colds and Grip. G. F. Willis Company, Atlanta, Georgia, Distributor."

The federal chemists analyzed the stuff and found it to consist essentially of oil of eucalyptus, methyl salicylate, and a small amount of thymol, or oil of thyme. The claims made on the trade package were such as to create in the mind of the purchaser the belief that the product was effective as a remedy for influenza, colds and grippe. These claims the government declared were false and fraudulent and had been applied knowingly and in a reckless and wanton disregard of their truth or falsity. On June 30, 1919, no claimant having appeared the court condemned the stuff and ordered it to be destroyed.—[*Notice of Judgment No. 7188; issued August 13, 1920.*]

Castor Oil.—The Evans Drug Co., Greensburg, Pa., shipped in December, 1918, 4½ gross of capsules of castor oil. When analyzed by the government chemist, these capsules showed a shortage in quantity varying from 6 per cent. to 22 per cent., the contents consisting of a mixture of castor oil and cotton seed oil. Because of this shortage and because of the claims made for the product, the shipment was declared adulterated and misbranded. No claimant appearing for the property, the court on June 30, 1919, condemned it and ordered it destroyed by the United States marshal.—[*Notice of Judgment No. 7192; issued August 13, 1920.*]

Correspondence

"CONDITIONS IN THE INDIAN MEDICAL SERVICE"

To the Editor:—Having lived in New Mexico for forty years, I am necessarily interested in the communication of Frederick L. Hoffman (THE JOURNAL, Aug. 14, 1920, p. 493) regarding the Indian Medical Service. Much of what he says is true. As in other branches of government service, there is nothing to attract physicians save a feeling of public spirit.

I live within 13 miles of a Pueblo population of about 1,000. The government physician in charge lives 40 miles away and has several Pueblos under his charge scattered at distances varying from 10 to 40 miles. It is impossible for him to supervise health matters properly, and to combat tribal customs and prejudices. In this particular instance he is able to visit the village once a month. You can well imagine the consequences. Much as he might work, his results are nullified by racial traditions and ignorance, so the matter comes down to a question of general education of the individual Indian, and until that is attained, no results in the matter of health can be expected.

I am glad to be able to state that the majority of Indian service physicians are capable and well meaning. They are handicapped by interminable red tape and insufficient salaries, however, and the department seems to take a vicious delight in "spurring a willing horse." The trouble lies in Washington, and the circumlocution office.

JAMES H. WROTH, M.D., Jemez Hot Springs, N. M.

HYPODERMIC INJECTION OF SODIUM CACODYLATE

To the Editor:—Hypodermic administration of sodium cacodylate is rendered painless by the addition in the syringe of about 5 minims of a 1 per cent. solution of procain. The burning is overcome and soreness much reduced.

I used sodium cacodylate for several years, but was practically always confronted with the complaint of severe pain or a severe ache, at the point of injection, lasting several minutes. This necessitated abandoning treatment in many nervous patients and particularly in children; also in cases of extreme emaciation, such as is found in pernicious anemia and tuberculosis. Until I myself was compelled to be at the "sharp end" of the needle, in the use of sodium cacodylate, I did not realize that this burning, especially from the stronger solutions, was quite so intense. The common idea that injections in the muscle are painless is incorrect.

At first I diluted the solution with plain sterile water. Then it occurred to me to use a solution of procain in connection with the arsenical preparation. The result was extremely gratifying to me and has been so to numerous other victims requiring this valuable medicament.

A 1 per cent. solution of procain will not precipitate the ordinary dose of sodium cacodylate. Stronger solutions, however, will do so. A. A. ROBINSON, M.D., Ogden, Utah.

REMOVAL OF ADHESIVE PLASTER WITH GASOLINE

To the Editor:—In a recent note, Dr. J. H. Carstens, in advocating the use of adhesive plaster in closing abdominal incisions, says: "In ten or twelve days the plaster comes off easily and the patient does not complain, or only slightly. It can be soaked with alcohol, but the alcohol hurts more than removing the plaster without it." If an advocate of the use of plaster is not familiar with a better way of removing it, certainly there are many others to whom this note may give a hint. Take a little gasoline in a common medicine dropper, scratch up with one's finger nail the tip of a corner of the plaster, let a drop of gasoline flow under the edge, and instantly an inch of plaster will loosen. Another drop will remove the next inch, and so on. A bit of gauze held in place by plaster makes the best dressing for nearly all wounds or incisions about the eyes, face, neck, hands, etc. The plaster dressing can be removed daily, if desired, with absolutely no discomfort to the patient. If one once begins to use plaster, he will soon find that he has but little use for the slipping bandage. ALANSON J. ABBE, M.D., Fall River, Mass.

To the Editor:—In THE JOURNAL, July 24, Dr. J. H. Carstens suggested that adhesive plaster be used in closing abdominal incisions. He speaks of removing the plaster at the end of ten or twelve days, if necessary by soaking it with alcohol, which is not altogether satisfactory, as "the alcohol hurts more than removing the plaster without it." If one will use gasoline instead of alcohol, wiping the plaster over with it, and then with a little gasoline soaked gauze or cotton peeling the plaster back from the skin, beginning at the edges, until it has been removed entirely, the patient will be happy and so will the physician. Cleansing the plaster accumulation at the edges of the strips in the same manner is easy. Some years ago I found that this worked so well that I adopted it as a routine. It is certainly a satisfaction to avoid the needless, nagging discomfort of plaster removals in so simple a manner. R. E. DICKSON, M.D., Holyoke, Mass.

HISTORY OF THE MOSQUITO THEORY

To the Editor:—About Nov. 1, 1912, I submitted a brief note in regard to early observations on the relation between mosquitoes and yellow fever. I stated that I had seen an interesting reference to the subject in an old copy of either the *Edinburgh Review* or the *London Quarterly Review*. I attempted to quote the article from memory, and now I find that I made several errors in doing so. Commenting on the article, you stated that you had written to the Library of Congress and had had both the *Edinburgh Review* and the *London Quarterly Review* searched for the article on yellow fever, and that the library had reported that no reference to a mosquito theory had been found. In March, 1920, I chanced to be in Washington and, recalling the facts, visited the Library of Congress and asked for an index of the *Edinburgh Review*. I was rewarded by promptly finding the article (Quarantine, Smallpox and Yellow Fever, *Edinburgh Review* 98:206 [July-Oct.] 1853). I desire to call attention to the fact that this article quotes original observations made by Dr. Blair, of the British Medical Service, as is evident from the following brief quotation:

> In December, 1843, the Mate of the "Matilda Luckie" was admitted with the gravior form of the disease and of a low type of which he died. His bed was in a sheltered corner of No. 2 and had mosquito netting all around. Into this bed a seaman named Broughton, who was admitted for disease other than yellow fever—a slight indisposition—was put for several days without any infection of any kind following. The writer states further that the experiment was repeated many times and invariably gave the same results.

I am glad to bring this to your attention, even though eight eventful years have passed over our heads since the first squib appeared. I find that I was in error in regard to the year as well as to the author, but I still feel that the matter is of some interest.

FRANK J. MCKINLEY, M.D., Philadelphia, Miss.

[COMMENT.—In answer to the earlier letter referred to in the foregoing, THE JOURNAL, Nov. 9, 1912, p. 1733, briefly sketched the history of the mosquito theory. A quotation from the Sanskrit Susruta (fifth century, A. D.) was cited as a fairly clear statement of the mosquito hypothesis in relation to the causation of "chills and fever." Reference was made to the fact that in 1848, Josiah Clark Nott of South Carolina already regarded the mosquito as a vector of yellow fever, so far as his own observations were concerned, and that in 1854, Louis Daniel Beauperthuy described the "*Zancudo bobo* à pattes rayées de blanc" as the agent of transmission. Granting that the author of the sentences quoted by our correspondent intended thereby to advance the theory of mosquito transmission, the passage is of interest as an early casual hint to the possible relation of mosquitoes to yellow fever.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

ACTION OF ARSPHENAMIN ON LEPTOSPIRA ICTEROIDES

To the Editor:—I shall be obliged to you for letting me know whether any experimental investigations have been made on the action of arsphenamin on *Leptospira icteroides* which would furnish a scientific basis for its application to the treatment of yellow fever, as tried in Brazil. See THE JOURNAL, Sept. 27, 1919, p. 1020. If possible, I should like a list of references.

A. B. VASCONCELOS, M.D., Mexico City.

ANSWER.—In an extensive review of the use of arsphenamin in nonsyphilitic diseases (THE JOURNAL, Sept. 4, 1920, p. 645) Reasoner and Nichols discuss its applicability to the treatment of yellow fever (p. 647) and give citations to the literature.

"BIOGRAPHIES OF PHYSICIANS NOMINATED FOR THE HALL OF FAME"

To the Editor:—In THE JOURNAL, August 28, p. 626, it is stated that "Frank Abbott is not found in any available list of prominent physicians." Dr. Abbott was born at Shapleigh, Maine, in 1837. He was graduated from the New York University Medical College in 1871. He was dean of the New York College of Dentistry from 1871 to 1897. He was a member of the New York County Medical Society and the New York Academy of Medicine. He died, April 20, 1897. He was the author of several works on oral surgery, and always followed closely oral surgery in his practice. His biography appears in several works on prominent men of the United States. I am his son.

FRANK ABBOTT, M.D., Baltimore.

P. A. Surgeon, U. S. P. H. S.

Poverty and Tuberculosis.—Consumption is with us all. Some races, some families, some individuals are more susceptible or less resistant than others, and with them the tubercle bacillus can thrive. There is no one cause to account for this lack of resistance in some. Of all causes the greatest are those which come under the heading of poverty.—L. S. T. Burrell, *J. State Med.*, December, 1919.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 7. Sec., Dr. Harry C. De Vighne, Juneau.
ARIZONA: Phoenix, Oct. 5-6. Sec., Dr. Ancil Martin, Phoenix.
COLORADO: Denver, Oct. 5. Sec., Dr. David A. Strickler, Denver.
DISTRICT OF COLUMBIA: Washington, Oct. 12-15. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.
GEORGIA: Atlanta, Oct. 12-14. Sec., Dr. C. T. Nolan, Marietta.
IDAHO: Boise, Oct. 5. Commissioner, Hon. Robert O. Jones, Boise.
HAWAII: Honolulu, Sept. 6-10. Sec. Dr. R. W. Benz, 1141 Alakea St., Honolulu.
ILLINOIS: Chicago, Sept. 20-23. Director, Francis W. Shepardson, State House, Springfield.
IOWA: Des Moines, Sept. 15-17. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.
KANSAS: Topeka, Oct. 12-13. Sec., Dr. H. A. Dykes, Lebanon.
MASSACHUSETTS: Boston, Sept. 14-16. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.
MICHIGAN: Lansing, Oct. 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MINNESOTA: Minneapolis, Oct. 5-7. Sec., Dr. Thomas S. McDavitt, St. Paul.
MONTANA: Helena, Oct. 5. Sec., Dr. S. A. Cooney, Helena.
NEW HAMPSHIRE: Concord, Sept. 9-10. Sec., Dr. Charles Duncan, Concord.
NEW MEXICO: Santa Fe, Oct. 11-12. Sec., Dr. R. E. McBride, Las Cruces.
NEW YORK: Albany, Buffalo, New York and Syracuse, Oct. 4-7. Assistant Prof. Examinations, Mr. Herbert J. Hamilton, Albany.
OKLAHOMA: Oklahoma City, Oct. 13-14. Sec., Dr. Jas. M. Byrum, Shawnee.
PORTO RICO: San Juan, Oct. 5. Sec., Dr. M. Quevedo Baez, San Juan.
RHODE ISLAND: Providence, Oct. 7-8. Sec., Dr. Byron W. Richards, Providence.
WEST VIRGINIA: Charleston, Oct. 12. Sec., Dr. S. L. Jepson, Charleston.

District of Columbia July Examination

Dr. Edgar P. Copeland, secretary, District of Columbia Board of Medical Supervisors, reports the oral and written examination held at Washington, July 13-15, 1920. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 26 candidates examined, 24 passed and 2 failed. Three physicians were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1920)	80.5, 83.3, 85.2
George Washington University		(1919)	80.2, (1920) 78.7, 79.1, 80.1, 80.8, 82.3, 82,6, 84.3, 84.7, 84.7, 85, 85.3, 86.1, 86.2.
Howard University School of Medicine		(1919)	76.7, 81.8
College of Physicians and Surgeons, Baltimore		(1914)	78.5
Kansas City University of Physicians and Surgeons		(1920)	77.7
Washington University of St. Louis		(1906)	80.3
Columbia University		(1915)	88
Cornell University		(1918)	85.8
	FAILED		
Howard University School of Medicine		(1919)	65.8
University of Maryland		(1918)	74

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Howard University School of Medicine		(1909)	Virginia
Jefferson Medical College of Philadelphia		(1916)	New Jersey
University of Virgina		(1916)	Virginia

New Mexico July Examination

Dr. R. E. McBride, secretary, New Mexico State Board of Medical Examiners, reports the oral examination held at Santa Fe, July 12-13, 1920. The examination covered 13 subjects and included 100 questions. An average of 75 per cent. was required to pass. Three candidates were examined, all of whom passed. Ten candidates were licensed on diploma and two on reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital of Chicago		(1919)	75.1
North Carolina Medical College		(1916)	83
University of Louisville		(1907)	82.4

College	LICENSED ON DIPLOMA	Year Grad.
University of Colorado		(1918)
Indiana Medical College		(1906)
Tulane University		(1901)
Barnes Medical College		(1897)
University of Nebraska		(1910)
Long Island College Hospital		(1871)
Davidson School of Medicine		(1899)
Starling Medical College		(1903)
Jefferson Medical College of Philadelphia		(1896)
Medical College of Virginia		(1918)

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Homeopathic Medical College of Missouri		(1902)	Kansas
University of Tennessee		(1909)	Tennessee

Kansas February Examination

Dr. Henry A. Dykes, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination held at Topeka, Feb. 12, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 8 candidates examined, 6 passed and 2 failed. Twenty-seven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Rush Medical College		(1917), (1920, 2)	3
Johns Hopkins University		(1919)	1
Columbia University		(1918)	1
University of Wuerzburg		(1896)*	1
	FAILED		
University of Heidelberg		(1914)*	1
Medical College of Kansas City		(†)*	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1915)	Dist. Colum.
Georgetown University		(1891)	Penna.
Northwestern University		(1918)	Illinois
Rush Medical College (1905) Indiana, (1914), (1915), (1916)			Illinois
University of Illinois		(1913) Illinois, (1917)	Wisconsin
University of Louisville		(1909)	Kentucky
Tulane University of Louisiana		(1913) Missouri, (1918)	Louisiana
Harvard University		(1917)	Mass.
University of Michigan		(1916)	Michigan
Barnes Medical College		(1903)	Missouri
Kansas City Medical College		(1900)	Oklahoma
Kansas City Hahnemann Medical College		(1916)	Arkansas
St. Louis University		(1911), (1913)	Missouri
Union Medical College of Kansas City		(1907)	Missouri
Washington University		(1912), (1917)	Missouri
John A. Creighton Medical College		(1916)	Nebraska
Eclectic Medical College, Cincinnati		(1919)	Nebraska
Woman's Medical College of Pennsylvania		(1895)	Penna.
University of West Tennessee		(1915)	Missouri
Milwaukee Medical College		(1909)	Wisconsin

* Graduation not verified.
† No date given.

Louisiana June Examinations

Dr. E. W. Mahler, secretary, Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, June 10-12, 1920. The examination covered 12 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 71 candidates examined, 69 passed and 2 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Arkansas Industrial University		(1889)	80
University of Arkansas		(1920)	83.3
University of Louisville		(1920)	87
Tulane University of Louisiana		(1920)	75, 80.2, 80.4, 81.3, 81.7, 81.8, 82, 82.1, 82.3, 82.7, 83.1, 83.3, 84, 84, 84, 84, 84.4, 85, 85, 85, 85.4, 85.4, 85.6, 85.7, 86, 86, 86.5, 86.5, 86.9, 87, 87, 87, 87, 87.4, 87.5, 87.7, 88, 88, 88, 88, 88, 88.2, 88.5, 88.8, 88.9, 89, 89, 89.4, 89.5, 89.8, 90, 90, 90, 90.3, 90.7, 90.9, 91, 92.
University of Maryland		(1910)	82
University of Pennsylvania		(1916)	85.1
College of Physicians and Surgeons, Memphis		(1910)	75
Meharry Medical College		(1920)	77.3
Memphis Hospital Medical College		(1906)	69*
Vanderbilt University		(1917) 86, (1920)	81
University of Edinburgh		(1916)	91 †
	FAILED		
Meharry Medical College		(1917) 44.2, (1918)	67

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Atlanta Medical College		(1915)	Georgia
Kentucky School of Medicine		(1907)	Arkansas
University of Louisville		(1908) Alabama; (1912)	Kentucky
University of Maryland		(1907)	Maryland
University of Cincinnati		(1919)	Kentucky
Jefferson Medical College of Philadelphia		(1898)	Georgia
University of Tennessee		(1917)	Arkansas
University of Texas		(1918)	Texas

* Thirteen per cent. allowed for years of practice.
† Temporary permit until completion of citizenship. Graduation not verified.

Book Notices

GEORGE MILLER STERNBERG; A BIOGRAPHY. By His Wife, Martha L. Sternberg. Cloth. Price, $5. Pp. 232, with illustrations. Chicago: American Medical Association, 1920.

From 1893 until 1902, General Sternberg was Surgeon-General of the United States Army. Some of his conspicuous achievements were the creation of the army medical school, organization of the army nurse corps and dental corps, establishment of the tuberculosis hospital at Fort Bayard, and the direction of the United States Army Medical Corps during the Spanish-American War. However, aside from his part of official leadership, he had already done much important bacteriologic work, and in the evening of his life after his retirement from active duty in the army, he interested himself in social service work with results to which the city of Washington will bear grateful witness even today. He is fortunate in having as his biographer his wife, Martha L. Sternberg, sharer in his trials and achievements, a sympathetic partner who reveals a grace of literary style and judgment seldom found in such intimate biographies.

The biography sketches Dr. Sternberg's early life, his Civil War record, his studies after the war and various stations which he held, an account of a trip to Europe, Indian battles, etc., and then in Chapter VIII comes an account of the beginning of Dr. Sternberg's scientific research. He was a member of the first yellow fever commission, did some work on malaria, discovered the pneumococcus, and did work on disinfectants which resulted in his receiving the Lomb prize. In 1893 he was appointed Surgeon-General, and without doubt succeeded, during his administration, in introducing into the corps the scientific spirit which was his greatest delight. In 1897 he became president of the American Medical Association. Unfortunately, his duties in the Spanish-American War prevented his attendance at the annual session in Denver. In his annual address, he displayed a general knowledge of medical interests surprising in a man whose work had been predominantly that of a single bureau of the government.

The Spanish-American War naturally receives much attention in the book, as do also sanitation and hygienic work in the Philippine Islands. On his retirement as Surgeon-General, Dr. Sternberg interested himself particularly in housing and antituberculosis work in Washington.

The American Medical Association has done a service to American medicine in publishing this biography. It has placed on permanent record the achievements of an American physician who was a practical leader, a pioneer among American army surgeons in the study of bacteriology, a clear thinker and an admirable character. As the great historian Sudhoff says: "The intuition of the true investigator and pathfinder of today and tomorrow must find its own way to new guiding principles from the work of yesterday, before yesterday, and the distant past."

MANUAL OF PSYCHIATRY. Edited by Aaron J. Rosanoff, M.D., Clinical Director, Kings Park State Hospital, N. Y. Fifth edition. Cloth. Price, $4. Pp. 684. New York: John Wiley & Sons, 1920.

This manual first appeared in 1905 as a translation of the French "Manuel de psychiatrie," by J. Rogues de Fursac. In the successive editions, material by the translator has been added. In the present one he has contributed chapters on psychanalysis, psychoneuroses, extramural psychiatry, intelligence and association tests, and other subjects. Professor Hollingworth of Columbia University writes on certain psychologic aspects; Miss Mary C. Jarrett, on the application of sociology in psychiatry, and Dr. Clarence A. Neymann contributes an appendix dealing with lumbar puncture, cell count, and chemical tests of cerebrospinal fluid. These additions are useful and add to the value of the book for purposes of reference; but the Kent-Rosanoff association tests and the Stanford revision of the Binet-Simon intelligence scale are given so much space that the book has lost some of its original proportions as a well balanced and concise manual. Seventy-eight pages are devoted to the association tests, only thirty-two pages to dementia praecox, and twenty-five to manic-depressive insanity. The discussion of these diseases, however, is excellent, and altogether the book gives in a clear and entertaining manner an up-to-date account of the various mental disorders, both those technically belonging to insanity, and those on the borderland. The material is so well classified and subdivided that the reader will have no difficulty in selecting what he needs at a given time, whether he may be looking for practical points concerning the diagnosis or management of a particular type of insane patient, or for modern psychologic interpretations. Numerous and definite references to important articles in the literature are a great help to readers in search of more detailed data.

UEBER DIE SYMPTOMATOLOGIE UND THERAPIE DER MAGEN UND DUODENALGESCHWÜRE. Von Dr. Eugen Rosenthal, Assitent der Klinik. Paper. Price, 12 marks. Pp. 72, with 81 illustrations. Berlin: S. Karger, 1920.

The author presents a systematic study of 326 cases of ulcer observed at a clinic in Budapest over a period of three and one-half years. The symptoms and diagnostic signs are carefully analyzed. Emphasis is laid upon the need for prolonged study of the doubtful cases and especially upon repeated examination of the stools for occult blood, when the patient is on a meat-free diet. During the three and one-half years, 3,500 patients presented themselves at the clinic, and a diagnosis of ulcer was made 326 times. This is about 10 per cent. of all the cases. Attention is called to the frequency of ulcer on the lesser curvature. In the history of the case and in the physical or chemical examination there is no constant outstanding feature which is positive, except the roentgen-ray evidence. The roentgen ray did not present any evidence of ulcer in some of the cases. The medical treatment is given only in outline. Several cases under prolonged medical management showed healing of the ulcer crater, and successive roentgenograms are reproduced to demonstrate that this really occurs. Statistics are presented to prove that the majority of ulcers heal under medical management, and that surgical measures are indicated only in the minority. The recommendation of the author for prolonged medical treatment for large penetrating ulcers of the lesser curvature seems risky because of the great danger of such ulcers to undergo a carcinomatous change.

STANDARDS AND TESTS FOR REAGENT CHEMICALS. By Benjamin L. Murray. Cloth. Price, $3. Pp. 385. New York: D. Van Nostrand Company, 1920.

It is of vital interest to both physician and patient that the medicinal substances prescribed shall be of standard strength and purity. These facts can be determined only by the proper use of reagents in the hands of competent chemists. Hence the purity of reagents is of indirect interest to physicians. Although the preface does not so state, this book is evidently a rewriting and elaboration of Schenek's translation of the second German edition of Merck's "Prüfung der Chemischen Reagenzien auf Reinheit." What appears to have been a predecessor of the German work was Krauch's "Die Prüfung der Chemischen Reagentien auf Reinheit," which was translated into English by William and Dupré. The present book, therefore, appears to be little more than a late revision of these earlier works. It is regrettable that credit has not been given to the earlier authors, since the book might be taken for an original publication. In addition to the specific tests for impurities in chemicals, considerable information is given concerning the physical properties of chemicals, the actions of light on them, and the precautions necessary in their storage, all of which is of value to the analyst. Maximum limits of permissible impurities are given, but it does not appear by what authority these standards have been established. Since mention of the book is being used in the trade advertisements of a particular brand of reagent chemicals, it is presumable that the standards suggested are the arbitrary requirements adopted by the manufacturing house, of which the author is an employee. Standards for reagents should, of course, be established by law by a centralized governmental authority, such as the Bureau of Standards; but, since there is no provision for such work by the government, the standards adopted by manufacturers must be accepted in lieu of less biased ones. The book will be useful to analysts and manufacturers but only indirectly to physicians.

Medicolegal

Sufficient Evidence of Surgeon Exceeding Authority

(Wells v. Van Nort (Ohio), 125 N. E. R. 910)

The Supreme Court of Ohio says that the plaintiff, Mrs. Van Nort, sued defendant Wells, in the court of common pleas, alleging that she had employed him as a surgeon to perform an operation for appendicitis, but that he had, in addition to removing the appendix, removed both of her fallopian tubes without her knowledge or consent. The defendant answered, admitting that he had performed the surgical operation on the plaintiff, but denying every other allegation in the petition. The general purport of the plaintiff's testimony was to the effect that prior to the operation she was in good health, but about that time she suffered her first attack from a cause diagnosed by the defendant as appendicitis; that he said that the operation would be merely a scratch; that the incision would be large enough for the insertion of two fingers only; that the only operation which she consented to was an operation for appendicitis; that none other was talked about or intended at the time of the diagnosis; and that in the course of such operation, while the plaintiff was under an anesthestic, the defendant removed both of her fallopian tubes, which he claimed to have found in a diseased condition. The plaintiff's husband testified that he was present in the hospital during the time of the operation, and that he heard nothing about the diseased character of the tubes until the surgeon told him about them after the operation, when the surgeon said to him: "I found her tubes in bad shape and I removed them. I could have treated them, but the chances are that she might have been in the hospital two or three months; so I thought I had better take them out." The testimony further disclosed that the removal of the fallopian tubes would produce sterility and prevent conception. On the trial, the plaintiff having introduced her evidence and rested her case, a motion of the defendant to arrest the testimony from the jury was sustained by the court, on the ground that there was not evidence sufficient to submit the case to the jury. The court thereupon entered judgment in favor of the defendant. This judgment was reversed by the court of appeals, and the case remanded to the court of common pleas for further proceedings, after which error was prosecuted to the supreme court to reverse the court of appeals. For the purpose of this case the supreme court must take the testimony produced by the plaintiff on the trial as true. It was incumbent on her to prove that she did not consent, either expressly or impliedly, to that part of the operation which resulted in the removal of the fallopian tubes. It appeared that her only express assent was to the operation for appendicitis. Whether there was such an assent, either express or implied, was a question of fact for the jury. Since the plaintiff's testimony tended to prove that there was no express assent to the removal of the fallopian tubes, but that the only operation discussed was for appendicitis, and that the fallopian tubes could have been treated by the surgeon in two or three months' time at the hospital, the case should have been submitted to the jury. Wherefore the judgment of the court of appeals is affirmed by the supreme court.

Unconstitutional Provision for Vasectomy

(Mickle v. Henrichs et al. (Nev.), 262 Fed. R. 687)

The United States District Court in Nevada, in rendering a decree in favor of the plaintiff, restraining the warden and the physician of the Nevada State Prison from performing the operation of vasectomy on the plaintiff, holds that the Nevada statute which provides that "Whenever any person shall be adjudged guilty of carnal abuse of a female person under the age of 10 years, or of rape, or shall be adjudged to be an habitual criminal, the court may, in addition to such other punishment or confinement as may be imposed, direct an operation to be performed on such person, for the prevention of procreation: Provided, the operation so directed to be performed shall not consist of castration," violates the provision of the state constitution forbidding cruel or unusual punishments. The court says that, Mickle, having pleaded guilty to the charge of rape, was sentenced to be imprisoned in the Nevada State Penitentiary for an indefinite period of not less than five years, and it was also ordered as a part of the judgment that an operation be performed on his person sufficient to deprive him of the power of procreation.

It appeared from the record that Mickle was an epileptic. That fact was accorded considerable weight by the court in pronouncing judgment. Possibly in the exercise of its police power, it may be lawful for the legislature to adopt reasonable measures, adequate and sufficient to prevent degenerates and persons afflicted with transmittable mental defects, physical disease, or criminal tendencies from begetting children; but legislation of that character must operate on all unfortunates of the same class, and the classification must operate reasonably with relation to the end sought to be accomplished.

If the purpose of the Nevada statute be to prevent the transmission of criminal tendencies, it must be noted that it does not apply to all convicted offenders, not even to all who are habitual criminals, or to all persons adjudged guilty of rape or carnal abuse of female children, but only to such habitual criminals and persons guilty of rape as the court, in the exercise of a discretion, which is in no wise directed by the statute, may designate. It is a notorious fact that many judges do not regard mutilation as a wise or lawful method of punishment. It is only those of the contrary opinion who will prescribe vasectomy as a part of the punishment for this offense. Again, it is doubtful whether our penal institutions contain more than a small minority of those undesirables who are inclined to lawlessness and crime. It is easy, too, to imagine that a brute guilty of rape, or who has a tendency to commit such a crime, might regard it rather an advantage than otherwise to be sterilized. As a preventive of this crime, vasectomy is without effect. Once free, the convict who has been so punished is still capable of committing the offense. These considerations, however, were beside the issue. There was no attempt by the defendants to support the judgment on the ground that vasectomy is calculated to promote the general welfare.

Vasectomy in itself is not cruel; but, when resorted to as punishment, it is ignominious and degrading, and in that sense is cruel. Certainly it would be unusual in Nevada. Reformation of the criminal is a wise and humane purpose of the law, to be disregarded only when the death penalty is inflicted. It needs no argument to establish the proposition that degrading and humiliating punishment is not conducive to the resumption of upright and self-respecting life. True, rape is an infamous crime, and the punishment should be severe; but even for such an offender the way to an upright life, if life is spared, should not be unnecessarily obstructed. For him, and for society, a fair opportunity to retrieve his fall is quite as important as the eugenic possibilities of vasectomy.

Society Proceedings

COMING MEETINGS

Am. Acad. of Ophthal. and Otolaryng., Kansas City, Mo., Oct. 14-16.
Amer. Assn. of Electro-Therapy & Radiology, Atlantic City, Sept. 14-17.
Amer. Assn. of Obstetricians and Gynecologists, Atlantic City, Sept. 20-22.
American Association of Railway Surgeons, Chicago, Oct. 6-8.
American Child Hygiene Association, St. Louis, Mo., Oct. 11-13.
American Public Health Association, San Francisco, Sept. 13-17.
American Roentgen Ray Society, Minneapolis, Sept. 14-17.
Colorado State Medical Society, Glenwood Springs, Sept. 7-9.
Delaware State Medical Society, Wilmington, Oct. 11-12.
Indiana State Medical Association, South Bend, Sept. 23-25.
Kentucky State Medical Association, Lexington, Sept. 27-30.
Medical Association of the Southwest, Wichita, Kan., Sept. 27-29.
Minnesota State Medical Association, St. Paul, Sept. 29-30.
Missouri Valley, Medical Society of the, Omaha, Neb., Sept. 6-7.
New England Surgical Society, Providence, R. I., Oct. 6-7.
New Mexico Medical Society, Roswell, Oct. 15-16.
Pennsylvania, Medical Society of the State of, Pittsburgh, Oct. 4-7.
Utah State Medical Association, Ogden, Sept. 7-8.
Vermont State Medical Society, Rutland, Oct. 7-8.
Washington State Medical Association, Tacoma, Sept. 16-17.
Wisconsin, State Medical Society of, La Crosse, Sept. 8-10.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

March 15, 1920, **27**, No. 1

Studies on Striped Muscle Structure. H. E. Jordan, Charlottesville, Va.—p. 1.
Study of Lipoid Content of Kidney Tubule. C. Smith, Ithaca, N. Y. —p. 69.

May 15, 1920, **27**, No. 2

Criticism of Theories of Pulmonary Evolution in Mammalia. G. S. Huntington, New York.—p. 99.
Development of Uterine Glands in Man. E. A. Baumgartner, M. T. Nelson and W. Dock, St. Louis.—p. 203.
Reactions of Cells in Tail of Amphibian Larvae to Injected Croton Oil (Aseptic Inflammation). E. R. Clark and E. L. Clark, Columbia, Mo.—p. 221.

American Journal of Ophthalmology, Chicago

March, 1920, **3**, No. 3

Anomalous Condition of Ocular Fundus. W. C. Finnoff, Denver.—p. 161.
Alterations in Twilight Vision in Occupational Nystagmus. L. Weekers, Liege, Belgium.—p. 162.
Improved Method for Total Enucleation of Eyeball. F. Krauss, Philadelphia.—p. 166.
Effect of Nose and Throat Infections on Ocular Functions of Aviators. C. Berens, New York, and C. T. Uren, Omaha.—p. 170.
Eye Lesions Produced by Light Rich in Ultraviolet Rays. Senile Cataract, Senile Degeneration of Macula. J. Van der Hoeve, Leyden, Holland.—p. 178.
Nasal Infection Basis of Certain Ocular Lesions. J. B. Potts, Omaha. —p. 195.
Practical Observations on Refraction. I. W. Haughey, Aurora, Neb. —p. 197.
Heterophoria and Heterotropia. W. Walter, Chicago.—p. 201.

American Journal of Public Health, Boston

August, 1920, **10**, No. 8

Nation's Greatest Need: A National Department of Health. S. Harris, Birmingham, Ala.—p. 633.
Program for Organizing and Coordinating Industrial Clinics. B. J. Newman, Washington, D. C.—p. 637.
Biology of Pfeiffer Bacillus. E. O. Jordan, Chicago.—p. 648.
Health Quotations. J. A. Tobey, Washington, D. C.—p. 649.
Types of Fatigue. P. G. Stiles, Boston.—p. 653.
Anthrax Problem in Massachusetts. S. H. Osborn, Hartford, Conn. —p. 657.
*Application of Vaccines in Public Health Work. G. W. McCoy, Washington, D. C.—p. 666.
Relation of School and Special Feeding to Defective Nutrition. J. C. Gebhart, New York.—p. 669.
What is the Matter with Public Health? H. W. Hill, St. Paul, Minn. —p. 673.

Vaccine Therapy in Influenza.—Speaking of influenza vaccines, McCoy says that his own experiments and those carried out by persons closely associated with the Hygienic Laboratory were all carefully controlled and in every instance failed to show any evidence in favor of the vaccine, whether the latter was made from Pfeiffer's organism alone or included, in addition, pneumococci and streptococci. Some of the most careless work McCoy and his associates have ever encountered has been in connection with this subject of vaccination against influenza and its complications.

Archives of Internal Medicine, Chicago

July, 1920, **26**, No. 1

*Study of Renal Function and Associated Disturbance in Acid-Base Equilibrium of Blood in Certain Experimental and Naturally Acquired Nephropathies. W. deB. MacNider, Chapel Hill, N. C.—p. 1.
*High Protein Diets and Arteriosclerosis in Rabbits. L. H. Newburgh and T. L. Squier, Ann Arbor, Mich.—p. 38.
*Alkali Reserve in Pellagra. M. X. Sullivan and R. E. Stanton, Spartanburg, S. C.—p. 41.
*Recovery from Tuberculous Meningitis After Treatment with Intraspinal Injections of Antimeningococcic Serum. A. W. Hollis and I. H. Pardee, New York.—p. 49.
Lethargic Encephalitis: Symptomatology and Histopathology. E. M. Hammes, St. Paul and J. C. McKinley, Minneapolis.—p. 60.
Trench Fever. H. F. Swift, New York.—p. 76.
*Study of Phosphate Retention from Standpoint of Blood Analysis. W. Denis and A. S. Minot, Boston.—p. 99.
New Electrode for Use in Clinical Electrocardiography. A. E. Cohn, New York.—p. 105.
Frozen Sections from Case of Protruding Aneurysm of Arch of Aorta. G. W. Norris and G. Fetterolf, Philadelphia.—p. 114.
*Results of Antemortem Lung Punctures in Lobar Pneumonia.—H. M. Thomas and F. Parker, Boston.—p. 125.

Relation of Kidney Function to Normal Acid Base Equilibrium.—From anatomic and functional observations the inference is drawn by MacNider that the tubular epithelium is of more importance in maintaining a normal acid base equilibrium of the blood, and is more concerned with the elimination of phenolsulphonephthalein, urea and creatinin than is the vascular mechanism of the kidney. The investigation, which has been concerned with certain functional and anatomical studies in different types of nephropathic processes, tends to minimize the importance of the glomerulus as a functional unit and to emphasize the relative importance of the tubular epithelium. The investigation furthermore points out the influence of a disturbance in the acid base equilibrium of the blood on the histology and functional capacity of the renal epithelium.

High Protein Diets and Arteriosclerosis.—An examination of the aoras of fifty-nine rabbits showed that arteriosclerosis of the aorta is a very uncommon lesion in untreated rabbits. In a group of rabbits fed a high protein diet the diet either directly or indirectly was the cause of an arteriosclerosis. The microscopic appearance of the lesion was that of an advanced intimal atherosclerosis in varying stages up to and including secondary atheromatous change with cholesterin formation. This description tallies with true arteriosclerosis as it occurs in the human being.

Alkali Reserve in Pellagra.—Of the fifty-six patients tested by Sullivan and Stanton for alkali reserve by the alveolar air method and by the determination of the carbon dioxid bound by the blood plasma, none showed a marked depletion of the alkali reserve, about one-third showed a slightly subnormal level, while the greater number were within normal limits. There would seem to be little uncompensated acidosis in pellagra.

Antimeningococcic Serum in Tuberculous Meningitis.—There are reported in the literature thirty-eight undoubted cases of cured tuberculous meningitis, and fifteen in which the diagnosis is doubtful. Except for these cases, the treatment as shown by hospital statistics has been 100 per cent. ineffectual. Hollis and Pardee employed intraspinal injections of antimeningococcic serum, combined with frequent spinal drainage, and report two cases of tuberculous meningitis and two others possibly tuberculous meningitis showing recovery under this method.

Phosphate Retention in Nephritis.—A study of the inorganic phosphate content of plasma made by Denis and Minot showed that about 65 per cent. of the nephritic and cardiorenal cases, taken at random from the material found in the hospital wards, gave unmistakable evidence of phosphate retention. Fatal cases showed a rapid and progressive increase in plasma phosphate, increases of more than ten times the maximum normal value having been noted; the nonfatal cases, even though the patient was seriously ill, presented a relatively slight increase. The results obtained suggest the possible prognostic importance of the determination of inorganic phosphates in the plasma of persons suffering from nephritis and allied disorders.

Lung Puncture in Lobar Pneumonia.—A study of lung punctures performed at different stages of lobar pneumonia made by Thomas and Parker shows that the death of the organisms in the lung does not occur. in every case, at the time of crisis, but may occur several days before or after crisis. This leads to the belief that the antibacterial forces may proceed at one rate of speed while the detoxifying mechanism is going on at a different rate. The nature of the toxic substance in lobar pneumonia is imperfectly understood but the demonstration of toxic split proteins does not finally rule out the possibility of a true toxin-antitoxin reaction.

Boston Medical and Surgical Journal

Aug. 5, 1920, **183**, No. 6

Diagnosis and Treatment of Hemorrhagic Diseases. R. C. Larrabee, Boston.—p. 151.
Use of Quartz Light in Dermatology. E. L. Oliver, Boston.—p. 155.
Ductless Gland Therapy. C. H. Lawrence, Boston.—p. 160.
Various Types of Diabetics under Present Method of Treatment. F. G. Brigham, Boston.—p. 165.
*Use of Serum of Convalescents in Treatment of Influenzal Pneumonia. G. P. Sanborn, Boston.—p. 171.

Convalescent Serum in Influenzal Pneumonia.—One hundred and one patients who had bronchopneumonia following epidemic influenza were treated by Sanborn with the serum of convalescent patients. The dosage for adults was 100 c.c. and for children 50 c.c. From one to six doses were given each patient according to indications, at eight to twenty-four hour intervals. Those patients only were used as donors who had recovered from an undoubted bronchopneumonia which had followed epidemic influenza. Of the sixty-seven patients who recovered, fifty-nine required one or two doses; seven, three, and one, six. The maximum dosage of serum in a given case in the recovered group was 700 c.c. Of thirty-four who died, seventeen who received one dose did not live a sufficient length of time to receive a second. The remaining seventeen received two to four doses and two then received 500 c.c. and 700 c.c., respectively, as the total dosage. Reactions following serum were conspicuous by their absence. There were practically no complications in recovered cases. The mortality rate in this series of 101 serum treated cases was 33.6 per cent. In 184 cases of influenzal pneumonia not treated by serum, the mortality was 21 per cent. Sanborn maintains that the mortality rate for this series was not a measure of the value of convalescent serum, but was an index of the severity of the disease in the group as a whole. Convalescent serum appeared to have value when it was administered during the first three days of the pneumonia. Its value rapidly decreased when administered after the third day of the pneumonia as indicated by rapidly increasing mortality rates, according as administration was delayed from day to day. The time factor, that is the period between onset and day of treatment, had a close relation to the mortality rate and seemed largely to determine success or failure.

Aug. 12, 1920, **183**, No. 7

Florence Nightingale. May 12, 1820-1920. A. Worcester, Waltham, Mass.—p. 193.
Muscles and Ligaments of Lumbar and Pelvic Regions: Their Mechanical Arrangement and Treatment of Their Weaknesses. H. W. Marshall, Boston.—p. 201.
*Effect on Blood Pressure of Injection of Epinephrin in Dementia Praecox. L. G. Lowrey and W. W. Wright, Boston.—p. 209.

Effect on Blood Pressure of Epinephrin.—From an analysis of the blood pressure reactions to the injection of epinephrin in seventy-eight psychopathic cases, Lowrey and Wright are convinced that it does not have the value in differential diagnosis which has been claimed for it, at least in early cases, since some cases of dementia praecox show a rise and other cases show a fall. In fifty-four of sixty cases of dementia praecox there was an increase in blood pressure, forty of these showing rise of more than 5 mm. Hg. In eighteen cases of other types taken for comparison there was a depressor reaction in four.

Aug. 19, 1920, **183**, No. 8

Acidosis of Recurrent Vomiting Type. W. W. McKibben, Worcester, Mass.—p. 219.
Preventive Medicine as Applied to the Individual. J. P. Bill, Boston. —p. 227.
*Drainage in Cholecystectomy. J. T. Bottomley, Boston.—p. 232.

No Drainage After Cholecystectomy.—No drainage following cholecystectomy is advocated by Bottomley. The disuse of drainage means careful dissection and separate ligation of the cystic duct and vessels. The stump of the cystic duct is sterilized and its end protected by a tab of fat from the neighboring gastrohepatic omentum. The deep field of operation is usually cleansed with gauze saturated with ether. The folds of peritoneum dissected off the gallbladder need not be sutured over the denuded area in the liver, but may simply be laid on it. Slight oozing in the liver is controlled by hot packs applied temporarily or by laying omentum against the oozing surface. Bottomley has regarded moderate persistent oozing that he could not entirely control as a contraindication to the disuse of drainage; in such instances drainage has been provided for from twenty-four to thirty-six hours. Cases, too, in which there has been a good deal of soiling from an apparently infected gallbladder should be protected by drainage. Bottomley has done fifteen cholecystectomies without providing drainage of any kind. One patient died, probably of peritonitis, on the third day. The other fourteen cases were eminently successful from every point of view.

Illinois Medical Journal, Oak Park

August, 1920, **38**, No. 2

Compulsory Health Insurance; Modern Fallacy. E. H. Ochsner, Chicago.—p. 77.
Compulsory Health Insurance Sign of Economic Degeneration. G. L. Apfelbach, Chicago.—p. 81.
Health Insurance, from Economic Standpoint. W. D. Chapman, Silvis. —p. 84.
Legal Aspect of Birth and Death Records and Duty of Physician to his Clients. R. J. Folonie, Chicago.—p. 95.
Plans for Development of More Efficient Health Organization for Cities and Rural Sections of Illinois. C. St. C. Drake, Springfield. —p. 99.
Interpreting Findings in Heart Case. C. T. Hood, Chicago.—p. 102.
Prevention and Treatment of Wound Shock in Theater of Army Operations. D. Macrae, Jr., Council Bluffs, Iowa.—p. 108.
Treatment of Gonorrhea in Women by Methylene-Blue Process. W. A. N. Dorland, Chicago.—p. 114.
Approved Methods of Venereal Disease Control. G. G. Taylor, Springfield.—p. 119.
*Plea for Rectal Examination in Labor. D. Monash, Chicago.—p. 123.
Importance of Routine Examination of Duodenal Contents in Selected Cases. M. M. Null, Seattle, Wash.—p. 126.
Examination of Feces. C. J. Drueck, Chicago.—p. 130.
Mumps Meningitis Found at Camp Taylor Base Hospital with Necropsy Findings. W. R. Larkin, Chicago.—p. 133.
Neurocirculatory Asthenia. N. S. Davis, III, Chicago.—p. 135.
Roentgenographic Studies in Shadow Density, from the Standpoint of the Clinician. C. L. Wheaton, Chicago.—p. 138.
Stricture of Urethra. F. Stewart, St. Louis.—p. 140.
Dead Teeth and Antral Pathology. J. Novitzky, San Francisco.—p. 143.
*Tubercular Goiter Patient. E. P. Sloan, Bloomington.—p. 144.
Treatment of Septic Fractures. D. W. Crile, Chicago.—p. 144.

Rectal Examination in Labor.—In view of the tremendous annual death rate from puerperal sepsis, a preventable disease, and a five-fold greater morbidity rate, Monash says the medical profession must fairly face the facts and preach and practice and teach those methods that are known to demonstrably lessen the dangers to the child-bearing woman. The danger of puerperal infection is in direct proportion to the number of vaginal examinations and the lack of an aseptic environment. To the purpose and end of definitely diminishing the incidence of puerperal infection the rectal examination is recommended to replace the vaginal examination in labor, it having nearly all the advantages and none of the disadvantages of the latter. Every physician attending labor cases should neglect no opportunity to perfect himself in the method of rectal examination, and control his rectal findings by vaginal examination, if necessary. The rectal route for pelvic exploration in labor should be taught in medical schools and practiced in every maternity. Particularly in private practice in the home it should be the examination route of first choice and should be the examination route of first choice and should be given an intelligent, thorough and honest trial. Practical experience justifies the claim that the general use of the rectal examination before, during and after labor will cut down the incidence of puerperal infection, thereby saving the lives of thousands of mothers.

Tuberculosis and Goiter.—Three cases are reported by Sloan in which tuberculous patients developed goiter. They were operated on. Two women seem to have recovered from the tuberculosis; the third has improved greatly, in fact, she seems to be well.

International Journal of Public Health, Geneva, Switzerland

July, 1920, **1**, No. 1

*Protection of Mankind against Tuberculosis. A. Calmette, Paris.—p. 3.
Anti-Typhus Campaign in 1915 in Serbia Considered in Connection with Present Typhus Epidemic in Poland. R. P. Strong, Cambridge, Mass.—p. 3.
*Use of Protein Milk in Infant Clinic. Ad. D'Espine, Geneva.—p. 34.
*World Sanitation: A Twentieth Century Possibility. G. C. Whipple, Cambridge, Mass.—p. 39.
Definition and Scope of Social Medicine. G. Tropeano, Naples.—p. 58.
International Mind in Nursing. A. Fitzgerald.—p. 65.

Protecting Mankind Against Tuberculosis.—Calmette pleads for concerted action in antituberculous prophylaxis. He emphasizes that since every human being under the present social conditions is exposed from an early age to bacillary infection, it is most necessary that children be kept under strict supervision, so that by means, for example, of tuber-

culin tests repeated every six months, any recent contamination can be detected, and its source determined. This source once known, the child can be removed from contact with a dangerous infecting environment. The guiding principle in the social campaign against tuberculosis is the protection of healthy subjects, whether infant or adult, against massive or frequent infections. This fundamental idea should be made known among the public by every possible means.

Use of Protein Milk.—D'Espine's experiences at the Infant Clinic of the University of Geneva lead him to conclude that protein milk, prepared according to the formula of Finkelstein with the addition of from 3 to 5 per cent. of Soxhlet sugar, is a medicinal food of value in the treatment of the gastro-enteritis of infants. It is superior to buttermilk, in the first place because more readily taken by the child, and also because it hastens recovery and cure.

World Sanitation Possible.—World sanitation is believed by Whipple not to be impossible of attainment, but it will not come until there are sanitarians in every land and clime. The work must be started by men already skilled in sanitation who are willing to go from place to place, studying conditions, teaching public health, and inciting communities to utilize the principles of modern science. Each country and each nationality must have its own sanitary engineers just as it must have its own physicians, men who speak the language of the place, who know its people and their habits, its climate and the thousand and one details which comprise what are termed "local conditions." There are relatively few schools of public health in the world today, schools where medical science, hygiene, chemistry, biology, engineering, and administration are brought together, but the large and rapidly increasing demand for the graduates of these schools shows the need for such special training. The first step, therefore, would appear to be to organize and coordinate schools of public health (faculties of hygiene and sanitary engineering) in one or more universities in each country. To these schools should go students of the country, but also students of other countries where there are at present no such schools. Active work in public health organizations trains men in a most useful way. In fact active work should always supplement university training. There must also be a great spreading of the gospel of cleanliness throughout the world among all classes, men, women and children. All phases of the subject are discussed by Whipple.

Journal of Infectious Diseases, Chicago

August, 1920, **27**, No. 2

*Complement Fixation in Tuberculosis, and a Comparison of Wassermann and Hecht-Weinberg-Gradwohl Systems. J. B. Rogers, Cincinnati.—p. 101.
*Use of Tissue in Broth in Production of Diphtheria Toxin. G. H. Robinson and P. D. Meader, Baltimore.—p. 106.
*Influence of Creosote, Guaiacol and Related Substances on Tubercle Bacillus and on Experimental Tuberculosis. L. M. DeWitt, B. Suyenaga and H. G. Wells, Chicago.—p. 115.
*Noma in Dog. J. McI. Phillips and F. Berry, Columbus, Ohio.—p. 136.
*Intestinal Obstruction; Influence of Bacterial Flora on Toxemia of Acute Obstruction. P. R. Cannon, L. R. Dragstedt and C. A. Dragstedt, Chicago.—p. 139.
*Once a Typhoid Carrier, Always a Typhoid Carrier. S. H. Osborn and E. A. Beckler, Boston.—p. 145.
Bacillus Perfringens: Toxin and Antitoxin Production. A. H. W. Caulfeild, Toronto.—p. 151.
Infectious Abortion of Swine. L. P. Doyle and R. S. Spray, Lafayette, Ind.—p. 165.
Effect of Carbohydrate on Amino-Acid Utilization of Certain Bacteria. H. M. Jones, Chicago.—p. 169.

Value of Complement Fixation Test in Tuberculosis.—In Rogers' opinion the complement fixation test in tuberculosis is a valuable aid when taken in conjunction with other means of diagnosis and treatment, but the reliability of this test has not been sufficiently established to be used as a criterion in the diagnosis or to determine the presence of activity in a known case of tuberculosis. The phenomenon is not a specific antigen-antibody combination, but tends toward a group reaction. Next to the tubercle bacillus, the other acid-fast organisms such as *B. smegmatis, B. leprae* and Moeller's grass bacillus, give the higher degree of fixations. Other substances such as staphylococci, *B. coli, B. subtilis* and concentrated solutions of peptone gave occasional fixations. Antigens from living, virulent tubercle bacilli seem to be the best preparations to use in routine tests. The Hecht-Weinberg-Gradwhol system, when used with tubercle bacillus antigens, gave a lower degree of fixation than the Wassermann test. When used with syphilitic serum the results were the same in 98 per cent. of the cases.

Tissue Broth for Producing Diphtheria Toxin.—Robinson and Meader claim that diphtheria toxin can be produced regularly in broth to which pieces of sterile guinea-pig liver have been added. The medium must be inoculated immediately after the addition of the tissue. Broth prepared with certain American peptones gives satisfactory results when enriched with liver tissue. The most favorable initial reaction of the broth ranges from plus 0.3 per cent. to neutral to phenolphthalein. The broth at the time of testing should have a reaction ranging from p_H 8.0 to p_H 8.3, although a favorable reaction is not the only essential for toxin production. The addition of liver tissue reduces the necessary period of incubation. Strains of *B. diphtheriae* other than Park-Williams No. 8 have produced a toxin of high potency by this method.

Effect of Guaiacol Group on Tubercle Bacillus.—In order to determine whether there is any reason for believing that the various members of the guaiacol series should be expected to have any direct action on tuberculosis, the inhibitory or bacteriostatic action of a considerable number of the series was tested by DeWitt and her associates on the bacillus of human tuberculosis. None of the compounds belonging to the guaiacol series, showed definite therapeutic action in experimental tuberculosis in guinea-pigs Virulent human tubercle bacilli are inhibited from growth (bacteriostatic action) on artificial mediums containing a concentration of 0.01 per cent., or 1 part in 10,000 each of resorcin, thymol, paracresol, orthocresol and metracresol; 0.05 per cent. (1 : 2,000) is the lowest concentration which completely inhibited in the case of creosol and pyrocatechin. Guaiacol, creosote, hydroquinone and guaiacol cacodylate required a concentration of 0.1 per cent. (1 : 1,000) to inhibit growth completely. Sodium guaiacolate inhibited completely at 1.7 per cent., and partially at 0.8 per cent. Thiocol did not inhibit in 1 per cent. concentration and styracol, which is insoluble, did not inhibit in 10 per cent. concentration (suspension). Many bactericidal and therapeutic tests were made but the result always was the same, negative. The authors state, however, that the failure to observe any beneficial therapeutic effect on tuberculous guinea-pigs is, in view of the low bactericidal power of the substances tested, to be expected. It does not mean that these substances may not have value in open tuberculous infections in man in which other bacteria than *B. tuberculosis* are involved. But it does substantiate the opinion that seems to have been generally reached by careful clinical observers, that creosote and guaiacol do not have a specific action on tuberculous infection.

Noma in Dog.—A condition in a dog apparently identical in symptomatology and bacteriologic findings with the disease known as noma is recorded by Phillips and Berry. Attention is called to the possibility of contagion of Vincent's organisms from dogs to man.

Toxemia and Intestinal Flora in Intestinal Obstruction.—The intestinal flora of white rats was effectively controlled by Cannon and the Dragstedts through regulation of the diet. The feeding of a high protein diet produced a markedly proteolytic flora while the addition of lactose or dextrin in definite amounts brought about a predominance of aciduric organisms. The work of Hull and Rettger is confirmed. The toxemia incident to acute intestinal obstruction is uniformly associated with the presence of a proteolytic intestinal flora and that irrespective of the nature of the flora before the obstruction is produced. It is not possible to prevent the onset of toxemia in acute intestinal obstruction in animals by feeding diets which in normal animals bring about an aciduric intestinal flora. However, the onset of the toxemia may be delayed in proportion to the degree that the aciduric flora may be maintained, presumably developing simultaneously with the appearance of a proteolytic flora.

Typhoid Carrier.—The "carrier list" of Massachusetts now contains fifty-one known carriers, who were apparently

responsible for 493 cases of typhoid fever. Of the fifty-one carriers, twenty-one, or 41 per cent., transmitted the infection to others by milk, and eighteen, or 35 per cent., were food handlers, infecting others probably by food. The remaining twelve carriers, or 24 per cent., were in such occupations that they could have caused the cases associated with them, by food or contact. The intermittent nature of the carrier danger is manifest in several carriers. For instance, one carrier caused no known cases in 1909, 1910, or the period 1914 to 1918, inclusive, yet in 1919 there were twenty-nine cases on his milk route and for the first time, typhoid bacilli were isolated in his excreta. Similarly, three carriers showed the same peculiarity and indicate the grave menace a carrier is during his lifetime.

Journal of Orthopaedic Surgery, Lincoln, Nebr.

July, 1920, **2**, No. 7

*Open Operation for Congenital Dislocation of Hip. H. P. H. Galloway, Winnipeg, Manitoba.—p. 390.
Variations in Anatomic Structure of Lumbar Spine. J. E. Goldthwait, Boston.—p. 416.

Open Operation for Hip Dislocation.—Galloway prefers the open operation to manipulative reposition because of the practical impossibility in most cases of passing the head through the constricted portion of the capsule. Very exceptionally, in the youngest patients, this can be accomplished, but in the hips Galloway has opened it was clearly a physical impossibility in at least 95 per cent. of the cases. He describes his operative methods.

Laryngoscope, St. Louis

August, 1920, **30**, No. 8

Deaf Child. M. A. Goldstein, St. Louis.—p. 479.
Demonstration of Reconstruction Section of Defects of Hearing and Speech. C. W. Richardson, Washington, D. C.—p. 487.
How the Deafened Rebuild Their Lives. A. W. Peck, New York.—p. 490.
Psychology of Deafened People from a Layman's Point of View. J. de R. Storey, New York.—p. 496.
Ears and Job. E. E. Samuelson, New York.—p. 501.
Studies by Barany Rotation and Caloric Tests of Tumors of Nervus Acusticus. H. H. Vail, Cincinnati.—p. 505.
Peroral Endoscopy and Laryngeal Surgery. C. Jackson, Philadelphia.—p. 520.
Bronchoperiscope. W. Freudenthal, New York.—p. 527.
Essential Points in Successful Laryngologic Practice. L. H. Lanier, Texarkana, Tex.—p. 530.

Medical Record, New York

Aug. 14, 1920, **98**, No. 7

*Dilatation of Bronchi. Review of Forty Cases. J. H. Elliott, Toronto.—p. 253.
Clinical Value of Systematic History Taking in Gallbladder Disease. A. M. Crance, Bay City, Mich.—p. 260.
Study of Natural Saratoga Nauheim Baths at Saratoga Springs, N. Y. J. P. Humphrey, Saratoga Springs, N. Y.—p. 262.
*Proposed Vegetable Drug Deletions. A. R. Bliss, Jr., Atlanta, Ga.—p. 265.
Problem of Efficacy of Topical Applications of Methylene Blue in Female Gonorrhea. W. A. N. Dorland, Chicago.—p. 268.
Rabelais in Libraries. D. W. Montgomery, San Francisco.—p. 269.

Dilatation of Bronchi.—In twenty of the forty cases recorded by Elliott the onset of the cough was associated with a bronchitis which became chronic. Clubbing of fingers was noted in twenty-two. In twelve there was spitting of blood in quantity of a teaspoonful or more, and in five of these the hemoptysis was large. An unpleasant odor was present in the sputum of only six. Physical signs which would localize the lesion were absent in seven cases, and in eight others were suggestive but insufficient to localize. In thirteen of a group of fifteen cases the intracutaneous tuberculin test was applied. Of the thirteen, four gave a slight reaction and nine did not react. Six children were tested and none reacted. All were lower lobe or perhaps in some middle lobe cases. Many showed upper lobe involvement.

Deletion of Vegetable Drugs from Pharmacopeia.—A list of 121 United States Pharmacopeia vegetable drugs (excluding active principles like the alkaloids, glucosids, etc.) was compiled by Bliss and mailed to the entire medical profession of Atlanta with the request that each man study the list and then strike out those drugs that he believed it would be wise to drop from the Pharmacopeia. A study of the prescription files of the retail pharmacies of Atlanta was also begun in order to determine what substances are actually being prescribed by the medical profession of that city. Over 75 per cent. of the medical profession of Atlanta cooperated. All agreed on thirty vegetable drugs to be retained; 50 per cent. favored deleting thirty-one drugs. Among the brief reasons given are "inert," "useless," "limited utility," "obsolete," "worthless," "never used," "questionable value," "no advantages over other U. S. P. drugs of similar activity," "preparations unreliable and not uniform." It is interesting to note that of the thirty-one drugs, but one of these (red rose) is found in "Useful Drugs." The percentage of physicians advising the deletion of other drugs mentioned in "Useful Drugs" was very low, camphor being lowest with but 2 per cent. favoring its deletion, and cardamon next highest to red rose with 28 per cent. The remaining ones run close to 10 per cent. Not a single drug in the list of thirty-one proposed for deletion by 50 per cent. or more of the Atlanta men possesses any medicinal actions or virtues which demand its presence in the Pharmacopeia and recognition as an important medicinal agent. Not a single member of this list possesses any useful physiologic action that is not also possessed by one or more of the remaining members of the list. Therefore why retain them? Bliss believes that a further study of this subject in other sections will most likely disclose the fact that there is general unanimity of opinion concerning the drugs included in the list of thirty-one above, recommended by Atlanta physicians as worthy candidates for dismissal, and possibly also add several more drugs to the deletion list.

Neurological Bulletin, New York

November-December, 1919, **2**, Nos. 11 and 12

Acute Infectious Myoclonus Multiplex and Epidemic Myoclonus Multiplex. J. R. Hunt, New York.—p. 391.
Aims of Biochemistry of Nervous System. G. Pighini, New York.—p. 395.
*Evolution and Functional Significance of Medulla Oblongata. F. Tilney, New York.—p. 413.
*Atypical Case of Progressive Muscular Dystrophy. A. D. Finlayson, New York.—p. 431.

Functions of Medulla Oblongata.—The functions of the medulla oblongata are summarized by Tilney as follows: The gray matter of the medulla embodies a dominant autonomy over the vital processes of life. It mediates an essential control over respiration, cardiovascular activity, phonation, articulation, deglutition, digestion, secretion and metabolism. It also acts as an important relay station for the auditory nerve. The white matter of the medulla represents the continuity in all of the major conduction paths which serve to maintain efficient relations between the receptors and effectors of the body. The medulla is not only traversed by many of the most important afferent and efferent pathways of the nervous system, but is the site of decussation of several systems of fibers, notably the mesial fillet, Deiterospinal, olivocerebellar and pyramidal tracts.

Progressive Muscular Atrophy in Young Boy.—The case cited by Finlayson is of interest for the following reasons: the onset at the age of 16 (although there is a possibility that there was facial involvement earlier); the absence of heredity; the first recognized appearance in the muscles of the shoulder girdle, and the absence of any appreciable degree of pseudohypertrophy. The case presents some of the symptoms of all of the three subgroups mentioned by Oppenheim. About the time of puberty the patient showed a general lessening of physical strength, and at the age of 15, or about five years ago, definite muscular weakness appeared in the right upper extremity, then the left, and consecutively the back, hips, and lower extremities. Shortly after the muscular weakness made its appearance, atrophies of the muscles of the shoulder girdle were noted, and these have been progressive, until a typical "winged scapula" is present on each side. A résumé of the muscular condition is as follows: a slight weakness of the orbicularis oris giving a "tapir" mouth effect; weakness of all the muscles of the shoulder girdle to about one half of their normal efficiency; preservation of the muscular strength of the forearms and hands; a weakness of the anterior and posterior trunk groups, more especially the latter; weakness of the posterior thigh group and the anterior leg group,

including the dorsiflexors of the feet and toes; no atrophies below the waist line, but possibly some hypertrophy of pseudohypertrophy of the high and calf groups. The mode of arising from a supine to an erect position and from a sitting to an erect position is particularly characteristic. The electrical reactions show only a quantitative change in excitability and in no instance was there an alteration of polarity. The onset, course, subjective and objective symptoms exhibited, including the mode of arising from the supine and sitting positions to the erect position, together with the electrical reactions, seem to indicate that the case is a primary myopathy of the progressive muscular dystrophy type.

New Jersey Medical Society Journal, Orange

August, 1920, **17**, No. 8

Modern Cardiac Methods. H. M. Ewing, Newark.—p. 253.
Development of American Evacuation Hospital; Outline of Initial Treatment of War Wounds. G. Blackburne, East Orange.—p. 267.
Practical Methods of Infant Feeding. M. C. Pease, New York.—p. 273.
*Umbilical Colic of Friedjung in Older Children.' A. Stern, Elizabeth.—p. 279.
Scarlatina. H. I. Goldstein, Camden.—p. 257.

Umbilical Colic in Children.—Friedjung described in 1904 a typical form of hysteria in older children from 3 to 10 years, which is characterized by sudden attacks of abdominal pain in the neighborhood of the umbilicus. He gave these attacks the name of umbilical colic. The most prominent symptoms in these children are sudden attacks of pain, which come on, while the child is running or jumping and which disappear sometimes rapidly, so that the child has almost recovered by the time it reaches home. This pain lasts as a rule from a quarter to half an hour and during this time the child feels sick, becomes pale, complains about a very severe pain in the upper abdominal region, puts its hand to the stomach and afterward appears to be weak the whole day. These attacks repeat themselves at irregular intervals and last sometimes through months and even years. The bowel movements are normal and from the history of previous attacks it is not difficult to make a diagnosis of this condition. Stern reports three such cases.

New York Medical Journal

August 7, 1920, **62**, No. 6

Bordelaise Conception of Lethargic Encephalitis. R. Cruchet, Bordeaux, France.—p. 173.
Symptoms of Epidemic Encephalitis Structurally and Functionally Considered. I. S. Wechsler, New York.—p. 175.
Lethargic Encephalitis: Clinical Aspects. J. H. Leiner, New York.—p. 178.
Lethargic Encephalitis: Report of Cases. S. Schwartz, New York.—p. 182.
Lethargic Encephalitis in France and Switzerland. C. G. Cumston.—p. 185.
Intravenous and Intraspinous Treatment of Meningococcus Meningitis. D. Goldblatt, New Yor.—p. 187.
Epidemic of Typhoid Fever of Water Borne Origin and Carrier Transmission. L. H. Cornwall, New York, and J. P. Crawford, San Francisco.—p. 189.
Chronic Peritonsillar Abscess. M. Quackenbos, New York.—p. 193.

Aug. 14, 1920, **112**, No. 7

Diagnosis and Treatment of Hyperthyroidism. M. H. Fussell, Philadelphia.—p. 205.
Industrial Medicine. S. D. Hubbard, N. Y.—p. 212.
Condition of Chest in Influenza. L. J. Hammond, Philadelphia.—p. 212.
Abdominal Symptoms in Influenza Simulating an Acute Surgical Lesion. T. H. Russell, New Haven, Conn.—p. 216.
Treatment of Drug Addiction. T. F. Joyce, N. Y.—p. 220.
*New Method of Detecting Drug Habitués. H. C. Lane, Denver.—p. 222.
Bacteriologic Study of Ripe Olives. R. C. Rosenberger, Philadelphia.—p. 222.

Detection of Drug Habitués.—The finger of a suspected opiophagic patient is stabbed with an automatic lance. The blood is drawn into a Gower's blood pipet holding 2 cm. This is expelled into a small test tube 5 by ⅝ cm. containing 1 c.c. of physiologic sodium chlorid solution. This is repeated for five more tubes. The tubes are numbered 1, 2, 3, 4, 5 and 6. Each tube is gently shaken immediately after the blood is introduced. Two more tubes are prepared and numbered 7 and 8. If any shreds or clots of blood should be present, they are removed with a sterile platinum wire. As a rule, they will not be present. Tubes 1 and 2 are controls, containing only saline solution and blood. To tubes 3 and 4, 0.2 c.c. of a 1:100 solution of morphin sulphate in distilled water is added. The solution should be neutral. It must not be either acid or alkaline, therefore it should be tested with red and blue litmus paper and with phenolphthalein and methyl orange indicators. To tubes 5 and 6, 0.2 c.c. of a 1:200 solution of morphin sulphate made with a good grade of the drug in distilled water is added. Tubes 7 and 8 contain the blood of normal persons. After standing at room temperature out of the light for from twelve to twenty-four hours, or even less, tubes 1 and 2 (controls) show complete inhibition of hemolysis with a clear supernated fluid. Tubes 3 and 4 show almost complete inhibition of hemolysis with a very cloudy supernated fluid. This flocculent flaky appearance if the positive test for a drug habitué. Tubes 5 and 6 show a modified flocculent appearance of supernated fluid. Tubes 7 and 8 (true controls of normal blood) show a clear supernated fluid with complete inhibition of hemolysis.

Aug. 21, 1920, **112**, No. 8

Word to General Practitioner About Handling of Eye Cases. E. B. Miller, Philadelphia.—p. 237.
Report of Five Operative Eye Cases. E. B. Miller, Philadelphia.—p. 241.
Eye Conditions of Interest to General Practitioner. L. F. Love, Philadelphia.—p. 242.
History of Acidosis. W. H. Donnelly, Broolyn.—p. 246.
Child Health Work in Solvay Schools. G. M. Retan, Syracuse, N. Y.—p. 248.
*Case of Melanoma. S. R. Monteith, New York.—p. 252.
Nephritis. H. I. Goldstein, Camden, N. J.—p. 254.

Melanoma.—Three features of this case stand out: First, the volcanic rapidity of its clinical course; secondly, the distribution of the metastases as shown at necropsy, and the comparatively minute quantity of pigment seen in the tumor masses. The patient, aged 23, carried a tumor growth of the back five years without subjective symptoms. Then some event applied the torch. Within four weeks from her first discomfort, she was brought into the hospital so acutely ill that the diagnosis on admission was pneumonia. The picture presented was not unlike many seen in fatal pneumonia: cyanosis, jaundice, rapid pulse and extreme dyspnea. The absence of macroscopic change in liver and spleen was striking. Interesting features are the degree of involvement of the heart, pancreas and right suprarenal. The findings in the muscles were rather unusual. The lack of pigmentation also is a point worthy of note. Only one of the tumor masses, in the left lung, showed black deposits to the naked eye or under the microscope.

Rhode Island Medical Journal, Providence

August, 1920, **3**, No. 8

Surgical Lessons of Great War. A. G. Rice, Springfield, Mass.—p. 139.

Surgery, Gynecology and Obstetrics, Chicago

August, 1920, **31**, No. 2

*Roentgenographic Appearance, Diagnosis and Pathology of Some Obscure Cases of Bone Lesions. R. W. Lovett and S. B. Wolbach, Boston.—p. 111.
*Uretero-Ureteral Anastomosis. R. Peterson, Ann Arbor, Mich.—p. 132.
*Conservatism in Treatment of So-Called Essential Uterine Hemorrhage. S. H. Geist, New York.—p. 142.
Lung Abscess from a Practical Surgical Point of View. W. Whittemore, Boston.—p. 144.
*Physiology of Ovulation. S. S. Shochet, Chicago.—p. 139.
*Adenomyoma of Uterus. DeW. N. Casler, Baltimore.—p. 150.
*Late Hereditary Syphilis. M. R. Castex and D. del Valle, Jr., Buenos Aires, Argentine.—p. 160.
Technic and Indications of Radium Therapy in Uterine Carcinoma. H. Schmitz, Chicago.—p. 177.
*Experimental Ligation of Hepatic Artery. M. Behrend, Philadelphia.—p. 182.
Utility of Rubber Tube in Intestinal Surgery. D. C. Balfour, Rochester, Minn.—p. 184.
A Self-Filling Syringe for Local Anesthesia. W. W. Babcock, Philadelphia.—p. 193.
A Large Inaccessible Vesicovaginal Fistula following Hysterectomy. J. A. Corscaden, New York.—p. 195.
*Plastic Abdominal Incision for Colostomy. G. M. Linthicum, Baltimore.—p. 197.

Obscure Bone Lesions.—Lovett and Wolbach discuss the results of a diagnostic clinical and roentgen-ray study of twenty-six cases of obscure bone lesions in children. The important lesson drawn from the study is the reminder that tuberculosis in bone may simulate any other infectious process

in location and character of the lesion. Diagnosis from roentgen studies alone is, therefore, occasionally impossible and recourse must be had to other clinical evidence, and when possible to pathologic examination.

Uretero-Ureteral Anastomosis.—Peterson reports one personal case and gives a summary of seventy-two cases recorded in the literature.

Essential Uterine Hemorrhage.—Marked hypertrophy of the endometrium with cystic dilatation of many of the glands of the uterus were found by Geist in the uterine tissues examined. The one important finding in the ovaries examined was the presence of numerous cystic follicles with degeneration of the epithelium and ova and the occurrence of cysts lined by lutein cells. Somewhat similar ovarian lesions are present in cases of fibromyomata uteri associated with bleeding. It seems, in view of the possible etiologic significance of the ovarian lesion, that a more conservative treatment of these organs would be productive of good results both symptomatically and generally.

Specific Enzyme Cause of Ovulation.—The liquor folliculi was tested by Schochet as to a digestive action and if it possesses a specific enzyme that can be demonstrated by dialysis or other tests. The study is not completed but Schochet feels warranted to state that ovulation is due to a specific enzyme, its nature being similar to the enzyme erepsin. Apparently there are other proteolytic enzymes in the liquor folliculi; also a lipase. Atresia of the follicles is due to this proteolytic enzyme or enzymes. Schochet believes that these experiments offer a rational explanation for the use of thyroid extract and corpus luteum in sterility.

Fig. 1.—Primary incision.

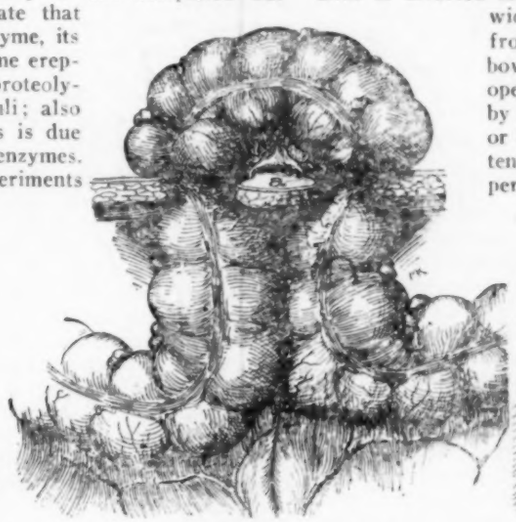


Fig. 2.—Lateral view through.

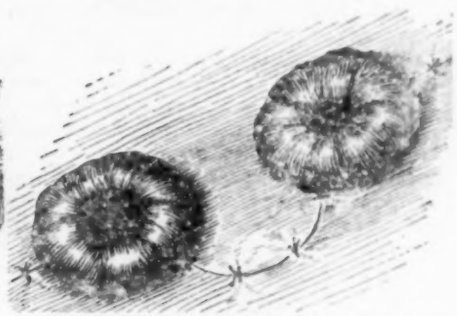


Fig. 3.—Operation complete, showing distal and proximal ends.

Adenomyoma of Uterus.—Casler describes a case of unique, diffuse, uterine tumor, really an adenomyoma, with stroma, but no glands. After complete hysterectomy, menstruation continued due to uterine mucosa in the remaining ovary.

Hereditary Syphilis Cause of Membranous Perienteritis.—Hereditary syphilis is regarded by Castex and del Valle as being a very frequent cause—perhaps the most frequent—of membranous perienteritis and analogous conditions. Its pathogenesis is complex as several factors operate, which in chronological order are: defects of conformation in the intestinal walls because of the faulty endocrine function which presides over and governs their development. These malformations on the one hand, and the abnormal function of the nervous system (sympathetic and autonomous), owing to the endocrine deficiencies, produce defects in the gastrointestinal statics and dynamics. As a consequence of the latter we have intestinal stasis which brings on chronic inflammation of the colon. From the wall of the colon the inflammation spreads to the surrounding serous membrane, aggravating the existing congenital lesions. The primary cause of all this is hereditary syphilitic infection, generally in the form of a late manifestation. These patients, first of all, should be given mixed antisyphilitic treatment with mercury chiefly. The surgical treatment is not to be abandoned, but is to be restricted to cases in which definite indications confirmed by clinical and radiologic diagnoses point to mechanical alterations of importance (kinks, adhesions, etc.); or to coexisting inflammatory lesions of adjacent organs: ovaries, tubes, appendix, gallbladder, duodenum, and stomach. Surgical treatment should consist in separating membranes and in molding and mobilizing the peritoneum, together with careful peritonization and removal of the adjacent affected organs.

Ligation of Hepatic Artery.—A case of rupture of the hepatic artery, the result of trauma, which terminated fatally fourteen days after ligation of the torn artery led Behrend to make an experimental study of this problem. Dogs were used. The hepatic artery and its branches were tied in different animals and always death occurred about five days after operation.

New Incision for Colostomy.—Linthicum suggests in such cases of rectal carcinoma as demand a permanent artificial anus, that which may be called a mortise and tenon skin incision which presents some advantages over the straight incision. The technic also possesses advantages in strengthening the usual coaptation in other abdominal incisions, such as for herniotomies, or in multiplying cross union in long abdominal incisions. Instead of being continued in a straight line at a mid-point, the primary incision for the artificial anus is diverted to one side, so as to form a neck with a width of 1 cm. to a button shape terminal of from 1.5 to 2 cm. in diameter. When the bowel is brought through the incision, an opening is provided through the mesentery by suitable suturing where the gut is kinked or bent. Through this opening the skin extension is protruded, so that the bowel in its permanent attachment is sutured to the skin margin, around its entire circumference. In closing the wound the button is sutured back in its original position, as in a skin plant of full thickness. When the bowel is cut across at the time of operation, or subsequently a distinct skin separation results between the two open segments of the cut intestine, and no possible sagging back into the abdomen can result, thus producing a much more effective result. The use of a rod support for the bowel at the time of operation is not needed as this graft acts as a support.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

July 31, 1920, **2**, No. 3109

Present Position of Vitamins in Clinical Medicine. F. G. Hopkins.—p. 147.
Treatment of Calculi Impacted in Pelvic Portion of Ureter. F. Kidd.—p. 160.
Acute Edema of Lungs. W. C. Davidson.—p. 163.
*Treatment of Ringworm. R. Hughes.—p. 164.
*Poisoning with Hydrochloric Acid. H. Stratford.—p. 164.

Treatment of Ringworm.—After shaving the affected area and washing thoroughly with soap and water and finally ether, Hughes paints the part with tincture of iodin. When thoroughly dry the painted area is sprayed with ethyl chlorid. The active agent is the small amount of ethyl iodid formed. The treatment is repeated twice a week. The average dura-

tion of treatment does not exceed a month for scalp cases, while in body cases it is even shorter.

Poisoning with Hydrochloric Acid.—Stratford records the case of a man who had swallowed about 3 ounces of fuming hydrochloric acid. He had just previously had a heavy meal. He was found a few minutes after the occurrence and promptly given a tumblerful of hot water and mustard. He vomited and continued to do so, bringing up with much retching quantities of dark brown material with mucus and bloodstained froth. He was given morphin hypodermically (which was repeated), milk by the mouth, and within a few minutes sodium bicarbonate in water in fairly large quantities, which was mostly returned. He was also given strychnin and caffein in large doses hypodermically, and put to bed with hotwater bottles. Later he was given bismuth carbonate 1 dram made into a paste with paraffin by the mouth, sodium bicarbonate in albumin and water by the mouth, and in the enemas in view of the possibility of acidemia. He slowly recovered without any serious complication beyond some left-sided dry pleurisy which subsided and some nocturnal delirium. The highest temperature was 101.8 F. The back of the throat was white and corroded, but gradually cleared.

August 7, 1920, 2, No. 3110

*Diabetes in Relation to Ductless Glands. W. L. Brown.—p. 191.
Treatment of Venereal Diseases in Women. M. Rawlins.—p. 194.
*Treatment of Syphilis in Infancy and Childhood. L. Findlay.—p. 197.
Laparotomy for Ruptured Uterus; Cesarean Section in Placenta Prævia. J. Byers.—p. 202.
Relations of Disease and Injury. A. McKendrick.—p. 203.
Meat Diet in Sprue. P. Conran.—p. 206.
Acute Pulmonary Edema or "Acute Suffocative Catarrh." J. A. Henderson.—p. 207.
Fatal Hepatic Cirrhosis in a Young Man. H. Brookman.—p. 208.

Diabetes and Endocrines.—The accelerating endocrine glands are controlled by the sympathetic and the retarding cooperate with the parasympathetic. These constitute the two divisions of the lowest level of the nervous system—the visceral, vegetative, or autonomic system, which, acting apart from the will and normally without exciting sensation, subserves the functions of organic life. The sympathetic is katabolic in its activity, converting the reserves of the body into kinetic energy, and defensive in its manifestations, while the parasympathetic is anabolic, building up reserves. The sympathetic is militant, the parasympathetic peaceful. One of the most important steps in this mobilization Brown says concerns the blood sugar. The sympathetic mobilizes the sugar into the blood by means of the endocrine glands, for purposes of defense, while the parasympathetic stores it in the tissues as a reserve. Ordinary diabetes shows no other signs of endocrine disease, while endocrine glycosuria betrays other evidences of that origin. On the basis of these conditions Brown makes the following classification of cases of glycosuria: (1) Organic origin, with structural changes in the endocrine glands leading to (*a*) overaction of suprarenal, thyroid, pituitary, or (*b*) underaction of the pancreas. (2) Sympathetic origin, with no evidence of structural changes in any endocrine gland, but producing a functional (*a*) overaction of suprarenal, thyroid, pituitary, and (*b*) underaction of pancreas. Diabetes is a sign of exaggerated metabolism, evoked through the sympathetic and the associated endocrines, which first asserts itself in relation to the most abundant food material, the carbohydrates, but as it advances expresses itself in relation to all.

Treatment of Congenital Syphilis.—Ideal treatment of congenital syphilis Findlay says means treatment of the syphilitic mother, but, in order that this may be carried out efficiently, compulsory notification is essential.

Journal of Laryngology, Rhinology, and Otology, London

August, 1920, 35, No. 8

Ear in Relation to Certain Disabilities in Flying. S. Scott.—p. 225.
Aqueduct of Fallopius and Facial Paralysis. D. McKenzie.—p. 244.

Journal of Tropical Medicine and Hygiene, London

August 2, 1920, 23, No. 15

Experiences of Medical and Prison Work in a New Country (Kedah, Malay Peninsula). A. L. Hoops.—p. 189.

Lancet, London

Aug. 7, 1920, 2, No. 6

*Bacterial Intoxication. F. H. Teale.—p. 279.
*Psychology of Special Senses and Their Functional Disorders. A. F. Hurst.—p. 285.
*Normal Basal Metabolism in Man. G. Dreyer.—p. 289.
*Significance of Blood and Soluble "Albumin" in Stools. R. Coope.—p. 291.
Two Actions of Alcohol. W. Burridge.—p. 293.
*Reformation of Elbow Joint. W. F. Buckley.—p. 294.
*Epileptiform Fits and Coma in Syphilis. C. H. Savory.—p. 296.
*Opium in Acute Dilatation of Heart. J. T. R. Davison.—p. 296.

Bacterial Intoxication.—In Teale's opinion the toxin is apparently not due to (*a*) proteolytic degradation of the bacteria by the antibodies; (*b*) autodigestion of the plasma; (*c*) preformed specific endotoxin; but is due to some interaction, the nature of which is as yet obscure, occurring between the tissue and to a lesser extent the free antibodies and the infecting bacterial protein, and according to the intensity of interaction more or less intoxication occurs. The type of intoxication which suggests itself as occurring during the interaction is to his mind closely paralleled by the autopoisoning produced from damaged muscles during wound shock.

Psychology of Special Senses.—In this, the second Croonian lecture, Hurst discusses hearing, listening and hysterical deafness.

Basal Metabolism and Body Size.—The relation of basal metabolism to the size of the body and age is discussed by Dreyer and he sets forth some formulas by means of which it is possible to predict the basal metabolism of a normal person with greater accuracy than by the methods hitherto suggested.

Blood and Soluble Albumin in Feces.—Coope claims that examinations of feces for blood are fallacious unless previous dieting and drugs have been suitably regulated. The test for soluble "albumin" in the feces is probably even more important than that for blood (though both taken together are specially valuable); it indicates either failure of digestion and absorption of food "albumin" (a very rare condition), or the existence either of hemorrhage or ulceration of the gut. It is almost always associated with some serious condition. The presence of both "albumin" and blood in the stools indicates (*a*) hemorrhage with or without ulceration not very remote from the anus, or (*b*) a severe hemorrhage higher up the gut. The presence of blood alone indicates hemorrhage. The nearer the bleeding is to the anus, the less significance it has. The presence of "albumin" alone usually indicates serous exudation, without bleeding, probably near the anus, and presumably the further the lesion from the anus, the larger the exudation must have been. More rarely it indicates a failure of digestion and to an absorption of food "albumins." Lavage of the large intestine, and investigation of the fluid so obtained, often gives valuable help in localizing a gastro-intestinal lesion.

Reformation of Elbow Joint.—Buckley cites a case in which, after gunshot injury of the left elbow joint with fracture of the humerus and extensive loss of bone, the joint was ultimately re-formed. Over a period of three years, there was a steady growth downward of the lower end of the humerus toward the ulna and an actual re-formation of the joint, with hardening and rounding off of the lower end of the humerus on the inner side to fit into the cavity of the ulna. The downward growth of bone continued for two years, the new joint forming in the third year.

Epileptiform Fits and Syphilis.—The four cases cited by Savory he thinks suggest that epileptiform fits in syphilis may not be so uncommon as is commonly thought, and may be an early manifestation. Cases of "epilepsy" suddenly occurring in adults, when there is no previous or family history of epilepsy, might with advantage be investigated for syphilis. Savory emphasizes the rapid relief apparent after early lumbar puncture and allowing cerebrospinal fluid to come away until it flowed at a normal rate. Potassuim iodid appeared to assist matters very considerably.

Opium in Acute Cardiac Dilatation.—In Davison's case of aortic regurgitation compensation had been established for several years, but was temporarily lost owing to an extraordinary physical effort. The patient's condition was made

worse by taking a glass of milk when in an acutely exhausted state. As a consequence the myocardium gave way and extreme dilatation supervened. Hypodermic injections of camphorated oil, digitalin, and oxygen inhalations were administered without avail. A hypodermic injection of an opium product and rest gave relief and the patient recovered.

Medical Journal of Australia, Sidney

June 26, 1920, **1**, No. 26

Congenital Word Blindness. R. A. MacLeod.—p. 593.
Medicine at Time of Pharaohs. J. K. Adey.—p. 596.
Prolapse of Rectum. H. Stubbe.—p. 597.

July 3, 1920, **2**, No. 1

Some Medical Aspects of Flying. H. W. Davies.—p. 1.
Experiences with Shipway Anesthetic Apparatus. G. Brown.—p. 4.

Medical Journal of South Africa, Johannesburg

May, 1920, **15**, No. 10

Traumatic Rupture of Globe of Eye. E. B. Israel.—p. 220.

Sei-I-Kwai Medical Journal, Tokyo

March-June, 1920, **39**, Nos. 1 and 2

Postmortem Examination of Influenzal Pneumonia. M. Okasaki and T. Fujii.—p. 1.

South African Medical Record, Cape Town

July 10, 1920, **18**, No. 13

Problem of the Deaf. J. L. Aymard.—p. 243.
*Gangrenous Appendix Complicated with Advanced Pregnancy. H. Lewis.—p. 251.

Gangrenous Appendicitis and Pregnancy.—Lewis cites what he regards a rare and unusual case, occurring in a native, a pure-bred Tembu who was about seven months pregnant. At operation he found a ruptured gangrenous appendix, with general peritonitis. After removing the appendix he performed cesarean section, and delivered a living female child weighing 2¼ pounds. The child lived in spite of there being no incubator, etc., available.

Tubercle, London

August, 1920, **1**, No. 11

Treatment of Pulmonary Tuberculosis. C. Riviere.—p. 499.

Archives des Maladies du Cœur, etc., Paris

April, 1920, **13**, No. 4

*Patent Ductus Arteriosus. C. Laubry and C. Pezzi.—p. 145.
*Interfering Double Sinus Rhythm. P. Schrumpf.—p. 168.
Advantage of Condenser in Electrocardiography. Daniel Routier.—p. 174.

Patent Ductus Arteriosus.—Laubry and Pezzi discuss the pathogenesis and the clinical manifestations of the persisting duct of Botalli, reproducing some electrocardiograms and other details of some typical cases. Many are the cases, they add, in which the anomaly causes no or slight symptoms, and the necropsy findings are a surprise. Valsalva's experiment has proved useful in differentiating it in some cases under roentgenoscopy; otherwise there are no symptoms pathognomonic of a patent ductus arteriosus.

Interference of Two Sinus Rhythms.—The electrocardiogram reproduced by Schrumpf apparently sustains the assumption of a dual action by the right and left nodes of Keith. The auriculoventricular heart block in this case was due not to modification of conductivity but to the weakness of the influx.

May, 1920, **13**, No. 5

*The Heart in Diphtheria. III. Aviragnet and Lutembacher.—p. 197.
Terminal Ventricular Tachycardia. L. Gallavardin.—p. 207.
*The Heart in Influenza. D. Simici.—p. 213.

The Heart in Diphtheria.—In this third communication on this subject, a case is described in which there was a complex extrasystolic arrhythmia with paroxysmal tachycardia and deranged conductibility in a boy of 10, with ultimate recovery.

The Heart in Influenza.—Simici urges fractioned doses of strophanthin by the vein to sustain the heart during influenza, as the heart beat becomes accelerated in contrast to the temperature curve.

Archives Médicales Belges, Liége

March, 1920, **73**, No. 3

*Criminal Responsibility. L. Lefèvre.—p. 195.
Crown Suture in Correction of Strabismus. G. Kleefeld.—p. 214.
Infantile Mortality in Belgian Congo. M. Dossin.—p. 223.

Attenuated Criminal Responsibility.—Lefèvre summarizes the principles which should guide the medicolegal expert, and declares that the doctrine of attenuated responsibility has no scientific justification. An act cannot be at the same time an act of reason and of dementia. With hysteria, epilepsy and alcoholism, only those acts show lack of responsibility which bear the stamp of the disease; not those committed by hysterics, epileptics or alcohol addicts. Constitutional diseases elsewhere than in the brain, such as tuberculosis, do not modify the anterior mental point of view, any more than a blow on the head. As the subject recovers from his comatose condition his character emerges anew, just as it does on waking every morning. Lefèvre reiterates that there is no localized point in the brain the destruction, inhibition or irritation of which can transform an honest man into a thief or forger, or delinquent, and he adds, "Society is a body. The presence of gangrenous limbs impairs its health and may entail disease."

Bulletin de l'Académie de Médecine, Paris

July 6, 1920, **84**, No. 27

*Pseudotumors from Mineral Oil Excipient. Letulle and Alglave.—p. 9.

Pseudotumors from Use of Liquid Petrolatum as Excipient.—Letulle and Alglave report three cases of inflammatory tumors developing one, five and sixteen years after injection of camphor or other drug in liquid petrolatum. These pseudotumors develop slowly but progressively and may resemble an abscess or woody phlegmon. The only treatment is to excise the whole process, but this is often impossible, as the droplets of the mineral oil spread in all directions like a drop of oil in marble. They are not absorbed but persist indefinitely as a foreign body. In their first case, the camphorated petrolatum had been injected at numerous points on the buttocks and thighs, and some of the resulting tumors were as large as the palm of one's hand, and interfered with the young man's walking and prevented prolonged muscular work, but were not painful in repose. The other cases were in women; some of the tumors were as large as a fist. They were in the breasts or flank, and mammectomy was done in one case. Five photomicrograms show the structure of these subcutaneous fibroid cystic tumors, a grave, progressive, incurable infirmity created by medicinal injections in a previously sound body, from the use of a mineral instead of a vegetable oil for the excipient.

July 20, 1920, **84**, No. 28

Medical Institutes as Centers for Biologic Research. E. Delorme.—p. 28.
Vaccination of the Newly Born. L. Camus.—p. 35.
*Attacks of Hemolysis in Raynaud's Disease. A. Souques and R. Moreau.—p. 44.
*Nitrogen Content of Blood in Cancer. A. Robin.—p. 51.
Distomatosis of the Liver in Man. Guiart.—p. 52.
Advantages of Formaldehyd in Preparation of Vaccines. S. Costa.—p. 55.
*Suprarenal Virilism. P. Mauclaire.—p. 57.

Hemolysis in Raynaud's Disease.—Souques and Moreau report experiences which apparently demonstrate that there is more than one kind of the Raynaud vasomotor neurosis. In some cases, holding the hands in very cold water for half an hour induced a silent and symptomless phase of hemolysis, or *crise hémoclasique*, followed by a drop in blood pressure and general malaise, the Raynaud cyanosis and painful paresthesia. This occurred in six tests in a woman who for seven years had presented in the winter typical Raynaud's disease. The tests were also positive in two other cases, the response resembling in every respect the spontaneous winter attacks. In two other cases, as also in normal subjects, the attack of hemolysis could not be elicited. The form of Raynaud's disease accompanied with general phenomena is probably rare; it is evidently the result of a hitherto unsuspected transient phase of hemolysis.

Total Nitrogen in the Blood Serum with a Cancer.—Robin found the total nitrogen content of the serum higher with malignant disease than in normal conditions.

Suprarenal Virilism.—Mauclaire reports another case in which a tumor in the suprarenal cortex was apparently responsible for the development of male characteristics in the woman of 38. In the course of six years the mammae had atrophied, the outlines of the body become less rounded, and a beard developed, compelling the woman to shave. He refers to similar cases on record and theorizes that the ovaries or the principal or accessory suprarenal glands in degenerating may acquire functions like those of the testicle hormone. (In reporting this meeting for the *Vie médicale*, the girl medical student who wrote the report exclaims in regard to this case, "Que Dieu veille sur mes glandes endocrines!")

Bulletin Médical, Paris

July 3, 1920, **34**, No. 34

Papulous Chancroid. A. Gendron.—p. 607.
*Case of Oidiomycosis of the Lungs. Nathan.—p. 608.

Oidiomycosis of the Lungs.—Nathan remarks that mycosis of the lungs is often mistaken for tuberculosis. The patients are sent to a sanatorium where in time they acquire tuberculosis so that the course of the case ultimately confirms the erroneous diagnosis. Nothing resembles pulmonary tuberculosis so closely as oïdiomycosis, and only search for the fungi in the sputum will allow promptly effectual treatment. In a case reported the young woman had been healthy until the last three years when symptoms indicated tuberculosis, and she had been treated at a sanatorium for two years, the treatment addressed to the lungs and an assumed tuberculous focus in the cervical vertebrae. Discovery of the oïdium in the sputum and treatment with iodid was followed by a complete cure in two weeks. Nathan reiterates that mycosis of the lungs is regarded as a rare disease when in fact merely its recognition is rare.

Bulletins de la Société Médicale des Hôpitaux, Paris

June 18, 1920, **44**, No. 22

Lethargic Encephalitis. H. Bourges and others.—p. 842; 848; 881.
*Sudden Death During Puncture of Pleura. Apert and P. Vallery-Radot.—p. 852.
Preservation of Anatomic Specimens. M. Renaud.—p. 858.
Abscess of Right Parietal Lobe. P. Merklen.—p. 859.
Gonococcus Septicemia. P. Ribierre and J. de Léobardy.—p. 862.
Case of Mal Perforans without Tabes. Achard and Rouillard.—p. 865.
*Cancer of the Thymus. C. Gandy and R. Piédelièvre.—p. 867.
*Spastic Paraplegia Left by Epidemic Encephalitis. A. Léri and R. Gay. —p. 876.
Cure of Enterococcus Septicemia under Autovaccine. Monziols and Collignon.—p. 883.
Proteus X in Blood of Typhus Patient. Collignon and Monziols.—p. 885.

Sudden Death After Exploratory Puncture of Pleura.—The boy of 4 seemed to be healthy when pleurisy developed. A simple exploratory puncture was followed by a fatal syncope. In forty-five cases of syncope after puncture compiled by Jeanselme, the effusion was serous in only three and only in eight of Cordier's compilation of eighty-four cases. In this group of eight all were adults, and the syncope proved fatal. In Cordier's compilation, thirteen of the cases were in children; the condition of the heart was not specified. In the case here reported, the effusion was serous and hemorrhagic, and the microscope revealed diphtheric myocarditis. There had been unrecognized diphtheria about a month before the pleurisy. Myocarditis and pericarditis were also discovered in six of Cordier's group of eight and heart disease was probably responsible in a number of other fatal cases.

Cancer of the Thymus.—Gandy and Piédelièvre relate that a man of 40 with signs of ordinary left pleurisy suddenly developed symptoms indicating obstruction of the superior vena cava; this led to the diagnosis of a tumor in the anterior mediastinum originating in the thymus. It proved fatal in twelve days.

Spastic Paraplegia After Epidemic Encephalitis.—In Léri and Gay's case the typical organic spastic paraplegia could not be traced to traumatism, Pott's disease or syphilis but a history of abortive epidemic encephalitis cleared up the etiology, confirmed by the retrogression of the paraplegia.

Journal de Chirurgie, Paris

1920, **16**, No. 2

*Operation for Cancer of Stomach. V. Pauchet.—p. 129.
*Access to Large Vessels in Neck. H. Costantini.—p. 150.
*Reconstruction of Lower Jaw. L. Dufourmentel.—p. 171.

Cancer of the Stomach.—Pauchet had an operative death rate of from 12 to 20 per cent. in his 300 gastrectomies for malignant tumors, and the survivals have ranged from six months to nine years. His twenty years of experience have convinced him that pessimism in regard to gastrectomy for cancer is unjustified. He removes with the half of the stomach a large part of the omentum, above and below, in a single piece, and gives the details of the operation in seventeen illustrations, with minute directions for the preparation of the patient and the after-care. Before the operation he has the teeth cleaned by a dentist, and the gums painted with iodin morning and night, and the mouth rinsed with hydrogen dioxid to prevent parotitis, thrush, etc. The nose is disinfected also with an antiseptic oil, morning and night, and the patient is trained in deep breathing through the nose, and is accustomed to the semiseated position. The stomach is rinsed out several times during the preceding two days to train the patient to bear this, and if there is obstruction of the pylorus, he gives an alkaline water up to 2 or 3 liters a day by the drop method by the rectum or by subcutaneous injection in the axillae or under the mammae. If haste is imperative, he gives intravenous injections of Enriquez' 30 per cent. glucose-artificial serum or, in case of acidosis, a 30 per cent. sodium bicarbonate solution, with epinephrin and other stimulants as needed. He operates always under local, regional or spinal anesthesia, and keeps up the lavage of the stomach as long as there is vomiting, using hot saline. Fluid to 3 liters a day must be supplied in some way, and deep breathing for five or six times be enforced every hour. If there is coughing, steam should be inhaled to loosen the secretions.

Access to Main Vessels in the Neck.—Costantini gives eleven illustrations of the preferable technic for treatment of wounds of large vessels in the neck, axillae and region above the heart.

Reconstruction of the Lower Jaw.—Dufourmentel's illustrations sustain his assertion as to the excellent outcome in every way of his method of reconstructing the jaw after the loss of the entire horizontal portion. A broad flap, tapering above, is turned over from each cheek and sutured to form the inner lining of the chin. Then the chin is remodeled, and covered with a broad straight flap cut in the scalp from the ear to the vertex and twisted around to meet its mate at the point of the chin, where the two are sutured together. The hair grows on the scalp flaps forming the chin, this "beard" concealing all defects.

Journal de Médecine de Bordeaux

July 10, 1920, **91**, No. 13

Psychopathology of Memory. Hesnard and A. Régis.—p. 347.
Double Ureter. R. Villar.—p. 352.
Opodidymus Cat Monster. G. Jeanneney.—p. 354.
Primary Mesenteric Thrombosis. J. Peyrot.—p. 355.

Journal d'Urologie, Paris

1920, **9**, No. 3

*Effect of Temperature on the Tonus of the Bladder. J. Roskam.—p. 161.
Congenital Dilatation of the Ureters. F. Corsy.—p. 185.
*Technic for Nephrostomy. R. Toupet.—p. 191.
Anuria from Tumor of Pelvic Colon. R. de Butler d'Ormond.—p. 199.
*Technic for Urethrotomy. Rafin.—p. 201.

Temperature and Tonus of the Bladder.—In Roskam's experiments on dogs at the Physiology Institute of the University of Liége, the bladder contracted under the influence of every change of temperature, the effect of sudden application of heat being more rapid and intense than application of cold. He explains this contraction as a complex phenomenon, the central nervous system participating in an inhibiting manner.

Technic for Nephrostomy.—Toupet has never applied on the living subject the technic he describes, with illustrations, but

it has been done on the cadaver by himself and his pupils hundreds of times, and seems to be logical and effectual. Instead of working blindly from the convex side of the kidney down to the pelvis, he exposes the pelvis first and works a forceps from the pelvis up through the kidney to the convex surface. Here, the tip of a bougie sound is seized by the forceps, and is drawn down into the pelvis, and pushed down a short way into the ureter. The pelvis is sutured, and the sound is held in place with sutures on the convex aspect. The kidney is then sutured to the incision in the skin; thus all the urine is diverted outward. To insure this beyond question, it may be well to ligate the ureter temporarily below.

Search for the Urethra Stump at Urethrotomy.—When the stenosis is impermeable, the central stump of the urethra may be rendered visible by massaging out the secretions in the prostate and seminal vesicles. The milky drop that appears shows the location of the urethra stump.

Lyon Médical

July 10, 1920, **129**, No. 13

The Incision for Interval Appendicectomy. M. Durand.—p. 557.
*Medicine and Statistics. A. Gonnet.—p. 598.

Medicine and Statistics.—Gonnet emphasizes that statistics are misleading unless we have a third term for comparison, but this point is frequently overlooked. For example, unless we know the prevalence of syphilis in the general population, we may be misled by Fournier's statement that he found unquestionable syphilis in 80 per cent. of his cases of tabes. If we assume, for argument's sake, that 90 per cent. of the population have syphilis, then what becomes of the 80 per cent. among tabetics? They would actually show a lesser proportion than the nontabetics.

Paris Médical

June 26, 1920, **10**, No. 26

*Variations in Day and Night Urine. J. Cottet.—p. 513.
Prosthesis for Stump of the Thigh. C. Roederer.—p. 519.
*Technic for Intercricothyroid Injections. G. Rosenthal.—p. 521.
*Relations between Incontinence, Hysteria and Diabetes. Papastratigakis.—p. 523.

Diagnostic Import of Variations in Day and Night Urine.—Cottet has the urine collected in three periods, from 7 to 9 a. m., from 9 to 9 p. m. and from 9 p. m. to 7 a. m. At 7 a. m. about a pint of water is ingested fasting, and the effect on the diuresis is noted reclining, and on another day with the subject up and about. The normal ratio between the day and night urine is ¼ or ½ but in pathologic conditions it may surpass 1:1. This variation may be due to the kidneys or to sluggish circulation. The density of the urine may vary widely in the normal day and night urine, but with pathologic conditions it keeps fairly constant, confirming the loss of normal adaptation to varying conditions. This nycthemeral testing of the specific gravity is particularly instructive. In four cases of chronic nephritis the density ranged only from 1.008 to 1.0105, while in several healthy subjects the lowest and highest figures were 1,001 and 1,025. With a tendency to oliguria, when the amount of urine voided at night surpasses that of the day, and the night urine is highly concentrated, there is retention of chlorids and of water and a more or less apparent tendency to edema. If the urine is pale and with low specific gravity, we can assume that the kidneys are chronically diseased, with atrophy, and great reduction of secreting power, and weakness of the heart, unless we know that the subject has not been drinking enough fluids or has been losing fluids in diarrhea or vomiting. Excessive polyuria may be of nervous, hysteric or diabetic origin.

This fractioned control of the day and night urine enables us to distinguish between the renal and the extrarenal factors governing the output. One practical point it brings out is the danger for the healthy from insufficient intake of fluids, thus compelling the kidneys to void a highly concentrated urine which may damage them in time. On the other hand, persons with chronic Bright's disease and high blood pressure are liable to drink too much water, in the effort to "rinse out their kidneys," ingesting more than their kidneys are able to take care of, and thus exaggerating the nocturnal polyuria. They regard this as a sign of the good work being done still by their kidneys, when in fact it is a sign that their cardiovascular apparatus is being needlessly overworked and fatigued, and hastening the final breakdown.

Intratracheal Injections.—Rosenthal gives fifteen views of his method of introducing a tube into the trachea through the cricoid and thyroid cartilages for direct medication of the region and lungs. He says that this medication by the drop method with a permanent fistula into the trachea is opening new fields for therapeutics and nourishment, and has transformed the prognosis of bronchopneumonia.

Hysteria and Diabetes in Relation to Incontinence.—The man of 29 had incontinence of urine from infancy to the age of 20. The persisting hysteric tremor developed later, with extreme polyuria and pollakiuria. Papastratigakis accepts them as manifestations of the underlying tendency to neuroses, confirming the law of alternations in neuroses.

July 10, 1920, **10**, No. 28

*Vagotonia and Asthma. C. Lian and J. Cathala.—p. 37.
Courses of Mineral Waters and Immunity. P. Ferreyrolles.—p. 41.
Tuberculous Meningitis Secondary to Pulmonary Lesions. Giroux.—p. 46.

Oculocardiac Reflex in Asthma.—Lian and Cathala found the oculocardiac reflex exaggerated in patients with bronchitis and attacks of suffocation at night resembling asthma. This is probably also the case in essential asthma, testifying to hyperirritability of the vagi. This suggests treatment of asthma with drugs to combat vagotonia, and they have found belladonna very effectual. They prescribe it in pills of 0.01 gm. each of the powder and extract. Two, three or four pills a day, supplemented with atropin sulphate in the severe cases. To check the attack itself, they give an intramuscular injection of epinephrin.

Presse Médicale, Paris

July 21, 1920, **28**, No. 50

Ocular Manifestations of Lethargic Encephalitis. F. de Lapersonne.—p. 493.
Tuberculous Lesions in Upper Skull. C. Lenormant and Soupault.—p. 494.

July 24, 1920, **28**, No. 51

Inaugural Lecture in Physiologic Chemistry. M. Nicloux.—p. 501.
*Hemiplegia in Children. C. Ducroquet.—p. 504.

Hemiplegia in Children.—Ducroquet shows in this profusely illustrated article the gait with hemiplegia, and advocates active movements of the knee and hip joint as the best means to restore functional use of the muscles. They may have to be preceded by passive exercises to stretch the contracted muscles. The knees, for example, can be strapped to a board as the patient sits with his back against a wall or the straight back of a chair. The equinus deformity of the foot can be corrected in young children by an elastic, fastening up the tip of the foot. An appliance should be worn at night to maintain this correction. Tenotomy may be indispensable in the severer cases, but much can be accomplished by pressure on the metatarsus as the knee is flexed. This relaxes the triceps at its attachment to the femur. Holding this corrected position with a plaster cast, the muscle finally relaxes permanently and two or three casts complete the process. Healing is complete sooner if the knee is enclosed in the cast.

July 28, 1920, **28**, No. 52

Unity of the Syphilitic Virus. J. A. Sicard.—p. 513.
*Pain from Enlargement of Lumbar Vertebra. G. Nové-Josserand and A. Rendu.—p. 514.

Sacralization of Lumbar Vertebrae.—Nové-Josserand and Rendu found the fifth lumbar vertebra abnormally large or thick or malformed in the roentgen-ray picture in 19 cases; in 6 this malformation was bilateral and symmetrical, and in 6 cases it was unilateral, including 3 in which the left side was normal. He knows of 4 cases in which the redundant bone was excised to relieve mechanical pressure. Bertholotti and Rossi have relieved the pains by electricity and other physical measures while others have been successful with radiotherapy. Operative intervention has not proved such a decided success that it can be unconditionally commended, and patients are seldom incommoded enough to accept it.

Progrès Médical, Paris

July 5, 1920, **35**, No. 27

*Education of Epileptic Children. G. Paul-Boncour.—p. 291.
Present Status of Pterygium. De Lapersonne.—p. 293.
Aortitis and Mineral Water. A. Mougeot.—p. 295.
Belladonna and Atropin. G. Faroy.—p. 297.

Education of Epileptic Children.—Boncour is physician in chief of the public Institut Médico-Pédagogique at Ivry, and on the basis of this long experience he discusses the proper training of epileptic children. They should always be educated apart from normal children, he declares; for one reason because they are almost invariably irritable and get angry easily. Another reason is that their seizures interfere with their keeping up with their class, and the efforts they make to do this are too much of a strain. Even intelligent epileptics should be placed in a special institution. Otherwise their whole future may suffer from both the mental and the physical standpoint.

July 10, 1920, **35**, No. 28

*Cryotherapy in Dermatology. Lortat-Jacob.—p. 303.
Asthma and Mineral Waters. E. Perpère.—p. 306.
Sodium Phosphate and Phosphoric Acid. G. Faroy.—p. 307.

Cryotherapy in Dermatology.—Of all the forms of applying extreme cold to the skin for therapeutic purposes, Lortat-Jacob has found most convenient a carbon dioxid snow container in which the carbon dioxid is mixed with acetone. The refrigerant action is more pronounced than with the snow alone. The temperature is the same for both; the tip of the snow pencil is always surrounded by a layer of gas which impedes its cryotherapeutic action. This is not the case with the acetone-snow cryocautery, the copper tip registering minus 80 C. He gives a number of illustrations showing the complete disappearance—without a trace of scar—of epitheliomas, angiomas on infants, nevi, keloids, nodular folliculitis, and roentgen ray dermatitis. He regards it as superior to all other measures for the latter.

Revue de Chirurgie, Paris

March, 1920, **39**, No. 3

*Ileus in Course of Tuberculous Peritonitis. A. Aimes.—p. 177.
*Temporary Disarticulation of the Foot for Tuberculosis. J. Revel.—p. 205.
Primary Sarcoma of the Rectum. N. C. Lapeyre.—p. 223. Cont'n.
Radiotherapy of Uterine Fibromyomas. P. Mornard.—p. 244.

Ileus in Course of Tuberculous Peritonitis.—Aimes comments on the small number of such cases on record, ascribing this to the nonrecognition of the true cause of the ileus in many cases. In the 68 operative cases he has compiled, 23 of the patients were under 16; 45 of the 68 recovered. The immediate mortality was 55 per cent. and the total mortality within a year was 63 per cent. The death rate was only 27 per cent. in the cases in which intervention was restricted to cutting adhesions binding down the bowel. If the peritonitis is extinct, the entire abdominal cavity should be explored to discover adhesions. With a florid peritonitis, simple exposure to the air may cure paralytic ileus, or the feces can be manipulated through the contracted segment, or profuse irrigation with heated serum may cure. The agglutinated mass of intestines was resected in one case, the patient dying; while the 3 patients treated with anastomosis all recovered. Canessa injected 10 liters of oxygen into the abdominal cavity, with the recovery of the patient. Even in apparently the most desperate cases, cautious surgical intervention may prove successful.

Temporary Disarticulation of the Foot for Tuberculosis.—Revel gives an illustrated description of three cases in which severe and extensive tuberculous processes in the foot, one of thirty years' standing, were cured by excision of all the morbid tissues. Access is obtained by Delbet's method of opening up the foot across, at the mediotarsal articulation or between the tarsus and the metatarsus cutting the tendons, vessels and nerves of the dorsum of the foot. The joint thus opened up, the fore part of the foot is swung down and the region is thus exposed like an opened book. Supplementary lengthwise incisions afford still more complete access, and the diseased soft parts and bones can be scraped and cleaned as perfectly as in preparing an anatomic specimen. The fore part of the foot is then sutured back in place and heals by primary intention. The foot is shortened by the total of bones that have had to be resected, but it answers the purpose of a foot, and the tuberculous lesion is a thing of the past. In one of the cases described, the lesion was of two years' standing, and he had to resect the scaphoid, cuboid, third cuneiform and part of five metatarsal bones; in another, the entire anterior tarsus and part of four metatarsal bones. In the third the astragalus had to be removed.

Revue Franç. de Gynécologie et d'Obstét., Paris

March, 1920, **15**, No. 3

Conservative Cesarean Section after Rupture of Membranes. A. Weymeersch.—p. 97.
*Heliotherapy in Genital Tuberculosis. E. Exchaquet.—p. 102.
How Soon Should Patients Get Up After Operations? J. Vanverts.—p. 105.

Heliotherapy in Female Genital Tuberculosis.—Exchaquet reports excellent success with heliotherapy in 17 cases, including salpingitis and pyosalpinx, and 3 cases of tuberculous perisalpingitis and pelvic peritonitis with tuberculosis of the cecum. The heliotherapy was applied by Rollier's technic. Mixed infection did not prove amenable to this treatment, superposed colon bacillus or gonococcus infection flaring up in a menacing manner under the heliotherapy in his 3 cases of the kind. In 8 cases the treatment was continued to a complete cure, averaging thirty-three weeks. In the others the patients were satisfied with the results realized in thirteen weeks on an average, and did not continue the course further. The ease and simplicity of the treatment commend it, he adds, except in the case of pyosalpinx, in which possibly surgical measures might be preferable.

Schweizerische medizinische Wochenschrift, Basel

July 22, 1920, **50**, No. 30

Etiology of Typhus. R. Doerr.—p. 637.
Colloid Chemistry and the Thyroid Problem. K. Kottmann.—p. 644.
Pulmonary Tuberculosis Plus Syphilis. K. Zehner.—p. 651.

Chirurgia degli Organi di Movimento, Bologna

May, 1920, **4**, No. 2

*Projectiles in Vertebrae. U. Stoppato.—p. 123.
*Supernumerary Bones in Tarsus. M. Lupo.—p. 141.
*Deformity from Missing Tibia. O. Nuzzi.—p. 164.
*Pseudarthrosis of Hip Joint. L. Debernardi.—p. 197.
*Index Finger as Substitute for Thumb. L. Tonnini.—p. 213.
*Tenotomy of Achilles Tendon. O. Nuzzi.—p. 239.
*Arthrodesis for Shoulder Paralysis. S. Vacchelli.—p. 253.
*Rubber for Orthopedic Splints, etc. F. Delitala.—p. 269.

Trauma of Vertebrae Without Injury of Spinal Cord.—Stoppato reports three cases of a projectile in the lumbar vertebrae without direct injury of the cord, and summarizes six other cases.

Supernumerary Bones of the Tarsus.—Lupo gives thirteen roentgenograms of the supernumerary bones that may be found in the tarsus, and discusses the disturbances characteristic of each.

Congenital Absence of the Tibia.—Nuzzi tabulates the details of eighty-one cases of congenital deformity of one or both legs from this cause, including three operative cases from the Rizzoli Institute. He advises postponing amputation as the growth of the child will modify the stump. The technic for conservative intervention varies from case to case as there are usually other deformities, but those of knee and ankle are generally secondary which facilitates functional use of the limb.

Decapitation of Femur in Pseudarthrosis of Hip-Joint.—Debernardi does not agree with those who regard decapitation of the femur as the only method of treating pseudarthrosis of the hip-joint, although he describes two successful cases of the kind in which this was done. One man of 53 now walks without a cane; the excursions of the joint have progressively increased during the two years since the operation.

Substitution of Index Finger for Thumb.—Tonnini's study of the anatomy and physiology of the thumb and the index

finger demonstrates the feasibility and advantages of slipping the index finger along to graft it on the stump of the thumb.

The Vessels and Sheath of Achilles' Tendon.—Nuzzi gives illustrations of the rich vascularization of Achilles' tendon, preliminary to discussing tenotomy. It is important to reduce the trauma of the sheath of the tendon to the minimum as, even at the best, a number of vessels are lacerated. But the circulation of each half of the sheath is practically separate, and hence a longitudinal incision on the median line is best. It can be extended transversely on one side at the top of the straight incision and on the other side from the lower end of the incision.

Arthrodesis for Paralysis of Shoulder After Poliomyelitis.—Vacchelli gives illustrated descriptions of six cases of successful suture of the head of the humerus to the glenoid cavity with stout silk, after exposing the bone surface of each. The functioning has shown constant improvement. In conclusion he emphasizes the importance of fastening the humerus in the proper rotation. In one case paralysis of the supinators detracts from the use of the joint.

Rubber in Orthopedic Prostheses.—Delitala describes some devices to remedy pseudarthrosis and paralysis of the arm, made from sheets of rubber, reenforced or not.

Policlinico, Rome

July 5, 1920, **27**, No. 27

Laboratory Diagnosis of Typhus. A. Abbruzzetti.—p. 691.
*Foreign Body in Esophagus. F. Rossi.—p. 696.
Rupture of Intestine from Contusion; Peritonitis; Recovery after Laparotomy the Third Day. J. Aboularage.—p. 697.
*Ileus from Megacolon. E. Casati.—p. 699.
Retrocolic Cholecystenterostomy; Recovery. E. Casati.—p. 700.
Present Status of Meat Inspection. S. Gabulsera.—p. 700.

Extraction of Foreign Body in Esophagus.—Rossi commends his practice of extracting the foreign body under ether, the patient lying on the roentgen-ray table. With this he extracted easily a coin from the esophagus of a child of 4, using merely the Kocher forceps, not having an esophagoscope available, and not missing it.

Obstruction of Megacolon.—Casati's experience indicates that megacolon is more common than generally realized, but it escapes detection unless it becomes obstructed. He reports a case of obstruction in a child and two in adults in which the obstruction was overcome at once by introducing a tube into the rectum and then raising the foot of the bed quite high, so that the pelvis sloped abruptly down toward the shoulders. Almost immediately the contents of the megacolon were expelled with great force. The rectum in these cases was empty, but through the rectal wall he could palpate the mass of the distended colon. The weight of the feces had dragged it down farther and farther until the sigmoid loop had been kinked, and total obstruction resulted. By raising the pelvis, the weight dragged down the other way, unkinking the loop. The effect was identical in all three of the cases, confirming the correctness of this explanation.

Rivista Critica di Clinica Medica, Florence

June 15, 1920, **21**, No. 17

Atypical Forms of Epidemic Cerebrospinal Meningitis. A. Varisco.—p. 193. Conc'n in No. 18, p. 205.

July 5, 1920, **21**, No. 19

Filtrable Polymorphous Coccus Cultivated from Cases of Epidemic Encephalitis. S. Pisani and A. Varisco.—p. 217.

Rivista di Clinica Pediatrica, Florence

June, 1920, **18**, No. 6

*Treatment of Congenital Megacolon. I. Magliani.—p. 321.
Lympho-Angio-Endothelioma in Small Pelvis of Two Months Babe. L. Sironi.—p. 334.
*Prosthesis for Cleft Palate in Nurslings. L. Arnone.—p. 347.
*Influenza an Eruptive Disease. C. Francioni.—p. 355.

Treatment of Congenital Megacolon in Children.—Magliani describes Francioni's method of treating this condition by introducing a long flexible tube into the rectum. This overcomes the kink that is the cause of the obstruction. He assumes that the sigmoid loop is unusually long or for other reason gets kinked or otherwise occluded. By allowing the escape of gases and feces, the disturbances are corrected and time is given for the anomaly to be outgrown or compensated. He leaves the tube in place for a number of hours, up to thirty-six, and reintroduces it at intervals of four or five days or oftener as symptoms develop. In two cases reported in detail, an infant 19 days old and a child of nearly 3 presented intense tympanites, cyanosis and stupor, but almost immediate relief followed the intubation. In each case the tube seemed to meet with an obstacle past which it had to be worked. Conditions were apparently permanently corrected in the infant in a few days, but the treatment was kept up intermittently for several months in the older child. This intubation should certainly be given a trial, Magliani adds, before resorting to surgical measures in young children.

Prosthesis for Cleft Palate.—Arnone reports the absolutely satisfactory result obtained with a rubber plate, made according to dentistry technic, with which the cleft in the palate was closed, enabling the child to take the breast approximately normally. A string from the prosthesis was tied around the ear. In one of the two cases the cleft was bilateral and unusually large. The plate is illustrated.

Influenza an Eruptive Disease.—Francioni explains that the eruption is limited to the mucosa of the air passages, mouth and nose, but the disease belongs, he asserts, in the group of exanthemata.

Anales de la Facultad de Medicina, Lima

May-June, 1920, **3**, No. 15

Anatomy of Sculptured Head (1750). F. Quesada.—p. 207.
Opening Lecture of Physiology Course. H. F. Delgado.—p. 215.
*Epilepsy. C. A. Bambarén.—p. 221. Begun in No. 13, p. 18.
*Reconstruction of Forefinger. E. Delgado G.—p. 248.
Influenza in Children. R. Eyzaguirre.—p. 251.
Normal and Pathologic Speech. L. D. Espejo.—p. 264. Begun in No. 9, p. 169.
Microscopic Study of Balsam of Tolu. A. Maldonado.—p. 287.

Epilepsy.—Bambarén concludes his review of the present conceptions of epilepsy with an appeal for individualization in managing cases of epilepsy according as the brain or the endocrine system is responsible for the disease. The thyroid and parathyroids may be responsible for it directly or only secondarily, in the endocrine group, but in the cerebral group the primal cause may be infectious, toxic, traumatic, or from physical malformation or tumor growth. He remarks that the Abderhalden reaction has confirmed the cortical site of the cerebral lesion. Treatment should aim to remove the cause and supplement deficient endocrine functioning, with possibly nonspecific antigen therapy.

Transplantation of Toe to Hand.—Delgado's illustration shows the excellent results accomplished by transplanting a toe to lengthen the short stump of the right index finger, this and the two middle fingers being rudimentary.

Gaceta Médica de Caracas

May 15, 1920, **27**, No. 9

Magnesium Sulphate Subcutaneously in Constipation. J. R. Risquez.—p. 105.
Hydatid Cyst of Liver in Venezuela. J. M. García Parra.—p. 106. Idem. L. Razetti.—p. 111.

May 31, 1920, **27**, No. 10

Silver Salvarsan. J. Iturbe.—p. 117.
Sodium Citrate in Treatment of Pneumonia. F. de P. Ruiz Mirabal.—p. 119.
Hydatid Cyst of the Liver in Venezuela. A. Ortega.—p. 121.

Semana Médica, Buenos Aires

April 22, 1920, **27**, No. 17

*The Vitón Tuberculin Test and Treatment. J. J. Vitón.—p. 545.
Activities of the Plasma; Halogens and Tuberculins. S. de Madrid.—p. 552.
*Mercuric Cyanid Fatality. L. U. Rabuffetti.—p. 561.
Prophylaxis of Venereal Disease in Laboring Classes. L. Bard.—p. 562.
Polymorphism of Influenza. R. Rivas Jordan.—p. 565.
Retro-Omental Hydatid Cyst. L. U. Rabuffetti.—p. 567.
Organotherapy in Dementia Praecox. M. Helmann.—p. 569.

April 29, 1920, **27**, No. 18

Present Status of General Anesthesia. A. Rodriguez Egaña.—p. 577.
Glycogen in Auriculoventricular Conducting System. P. Rojas.—p. 591.
Conjunctivitis; Classification and Treatment. R. Argañaraz.—p. 595.
Present Status of Treatment of Visceral Syphilis. T. Pontano.—p. 605.

Vitón's Tuberculin Test and Treatment.—The "Argentine method" of giving extremely minute doses of tuberculin has been repeatedly mentioned in these columns. Vitón insists that in applying the tuberculin test it is as important to avoid an appreciable local reaction as a general febrile reaction, as both do serious damage. The optimal dose has to be determined tentatively for each individual. The diagnostic reaction is when there is a decided improvement in the focus, not an aggravation. This decided improvement in the focus and in the general condition is maintained by continuing the optimal dose until its effect is exhausted, and then increasing the dose a little. He argues that as statistics show that nearly every one of us is tuberculous, this infection must be a factor in many affections in which hitherto tuberculosis has not been incriminated. By his method of tuberculin treatment in extremely minute doses, this factor is eliminated more or less completely, and the system is then able to throw off the whole affection.

Dilutions of the tuberculin from 1:100,000,000 to the figure with fifteen zeros are what he uses in the subacute and chronic rheumatism of Poncet, neuralgias, dorsal myalgias, disordered heart action, arrhythmia and functional disturbances of various kinds without much impairment of the general health, and in all cases of mild impregnation with tuberculous toxins with little if any derangement of the metabolism. This is the "tolerant group" of patients. The "sensitive group" includes external glandular processes, paratuberculosis dyspepsia, endocrine derangement (exophthalmic goiter, hyperthyroidism, ovarian disturbances, etc.), diabetes, neuritis, and lesions of the eyes. In this group he uses dilutions of the tuberculin with from fifteen to twenty zeros. His third group embraces asthma, tuberculous nephritis, mild tuberculous toxemia and incipient apical disease. This group is treated with dilutions of from twenty-one to twenty-six zeros. The fourth group, the "hypersensitive," includes frankly febrile lesions and softening and cavity formation in the lungs. In this group he uses the tuberculin diluted to twenty-seven zeros. With these minute doses of tuberculin the organism is helped, not damaged at first before help is applied, as is the case with ordinary tuberculin treatment. He advises a tentative course of the kind in every pathologic condition which, contrary to expectation, shows no tendency to recovery under persevering classical treatment. Also in every slow chronic syndrome of whatever nature, and every pathologic condition for which no definite cause can be discovered. He has had great success, he relates, in tuberculous affections of the eyes rebellious to all other measures, including tuberculin by the ordinary excessive dosage. It does not conflict with other treatment, and systematic prophylaxis by this means in jails, schools and factories might modify the predisposition to phthisis and thus ward it off.

Fatal Injection of Mercuric Cyanid.—The drug was not deposited in the vein, as intended, and the region ulcerated. This involved the brachial artery and induced a fatal hemorrhage during slumber in the night.

Deutsche medizinische Wochenschrift, Berlin

Feb. 5, 1920, **46**, No. 6

Specific Nourishment of Keratic Tissues. N. Zuntz.—p. 145.
*Tonus of Smooth Muscle of Hollow Organs. J. Pal.—p. 146.
Sun-Lamp in Treatment of Children. Hamburger.—p. 147.
*Sachs-Georgi and Wassermann Reactions. T. Messerschmidt.—p. 150.
Attempts at Immunization against Tuberculosis by Turtle Tubercle Bacilli. A. Moeller.—p. 150.
*Paroxysmal Tachycardia During Childbirth. E. Muschallik.—p. 151.
*Tendon Transplantation in Radial Paralysis. K. E. Mayer.—p. 152.
Prosthetic Appliances for Contraction of Leg. F. Bähr.—p. 153.
Treatment of Trichophytosis and Sycosis Barbae. Wetterer.—p. 154.
Treatment of Flat-Foot. Heermann.—p. 154.
Technic of Intravenous Arsphenamin Treatment. H. Engleson.—p. 154.
Dermatologic Hints for General Practitioner. Joseph.—p. 155.

Tonus of the Smooth Muscle of Hollow Organs and Its Therapeutic Importance.—Pal, in his experimental study of the hollow organs, has come to regard tonus not as a condition but as a function which serves a very definite purpose. This function is to a certain extent opposed to the motor functioning power of the muscle. He finds that there are two distinct factors that characterize the condition of tension in the resting muscle. He terms these the tonic and the kinetic factors. The purpose of muscle tonus is to regulate kinetic processes. If necessary, this regulating function becomes a reparative function, as is seen in secondary hypertonia, but hypertonia may arise primarily as a disturbance of function from causes yet unknown. If the hypertonia assumes a reparative character, therapy is of course not indicated. Considering muscle tonus as a function gives rise to many new points of view, which are discussed with some detail.

Comparison of Sachs-Georgi and Wassermann Reactions.—On the basis of 1,122 serum tests, Messerschmidt reports that he found the Sachs-Georgi test of equal value with the Wassermann.

Paroxysmal Tachycardia During Childbirth.—Muschallik feels that he is justified in again calling attention to the ocurrence of paroxysmal tachycardia during labor by the fact that in several instances the attending physician has wrongly assumed that the high pulse was caused by internal hemorrhage, and has performed a useless laparotomy. In his case (a 23 year old primipara) the subjective condition of the patient was excellent, nor was the dyspnea present that usually accompanies a severe internal hemorrhage. A pulse of 140 and even 160 has been noted in some cases. The duration of the attack may be ten minutes or more, and it may recur after an interval of an hour or two.

Perthes' Tendon Transplantation in Radial Paralysis.—Mayer opposes the view that tendon transplantation to correct radial paralysis should be done as early as four or five months after the injury, provided no improvement has been noted during the interval. Mayer believes that such intervention is justified only if the nerve, after exposure, has been shown to be irreparably injured, or if, following attempted neurolysis, not four or five but from eighteen to twenty-four months have elapsed without any signs of a return of function. He argues that numbers of cases are encountered in which, for a much longer interval than six months, complete degeneration seemed to persist and there was not the slightest sign of nerve conduction, yet reexamination a year later revealed marked return of function.

March 4, 1920, **46**, No. 10

Spirochetes of the Bucal Cavity. E. Hoffmann.—p. 257.
Useful Staining Method for Spirochetes. E. Becker.—p. 259.
Tubercle Bacilli of Cold-Blooded Animals in Immunization Against Tuberculosis in Man. F. Klopstock.—p. 260.
To Make Best Use of Cineplastic Arm Stumps. Schlesinger.—p. 262.
Penetrating War Wounds of Esophagus and Larynx. Boerner.—p. 264.
*Case of Congenital Hernia of the Linea Alba. F. Sieber.—p. 266.
Case of Syphilitic Kyphosis. A. Woloshinsky.—p. 267.
Technic of Bacteriologic Examination of the Blood. Canon.—p. 268.
Dermatologic Hints for General Practitioners. M. Joseph.—p. 268.

Case of Congenital Hernia of the Linea Alba.—Sieber states that with congenital hernia of the linea alba, conservative treatment with adhesive strips or truss cannot be expected to close up the sharp-edged gap between the fascia. The previous cases of Keiler and Klaussner, together with his own, prove, he thinks, that surgical intervention at once is well borne and brings about an entirely satisfactory result, with no injurious consequences. In Sieber's case the 2 months' old child had developed, during the first few weeks after birth, also an umbilical and a slight inguinal hernia. After the other two hernias were operated on the inguinal hernia did not reappear, so that the contemplated operation on this has been indefinitely postponed.

Monatsschrift für Kinderheilkunde, Berlin

June, 1920, **18**, No. 3

*Abnormally Large Amount of Feces in Young Children. G. Grimm.—p. 193.
*Growth and Nutrition of Children with Congenital Cardiac Anomalies. O. Weber.—p. 205.
Experience with Cubicle System in Heidelberg Children's Hospital. Hedwig Löwenstein.—p. 217.
A Case of Deafness in Infantile Scurvy. A. Seligmann.—p. 221.
Recent Studies on Fever and Heat Regulation. H. Mautner.—p. 225.

Significance of an Abnormal Amount of Feces in Young Children.—Grimm has been studying two cases of deranged nutrition in young children presenting the symptom of an abnormally large amount of feces, and here tabulates his findings in these and in three normal infants, the ages from

9 to 21 months. He finds that in normal children at the end of the first and at the beginning of the second year, if they are given a liberal mixed diet, the daily weight of the feces will vary from 43.7 to 70.9 gm. The bulk ranges from 78 to 87.5 c.c. and for each 100 gm. of food intake, from 5.5 to 8.5 gm. of feces were passed; for each kilogram of body weight, from 6.0 to 9.6 gm. of feces. Each 100 gm. of dry substance contained in the food yields from 6.4 to 7.9 gm. of dry feces. Of 100 gm. of ash in the food intake, from 27.1 to 41.1 gm. are passed in the feces, while 100 gm. of water in the daily food allowance correspond to from 5.2 to 9.1 gm. of water in the feces. In infants whose evacuations are unusually large, the daily food requirements are larger than in normal infants. In such children the weight of the daily feces ranges from 153.1 to 314.6 gm., while the volume varies from 160 to 370 c.c.; 100 gm. of food yield from 11.8 to 20.3 gm. of feces, which constitutes a remarkable variation from normal. The large stools are due to inadequate utilization of the food, and this finds its expression in the poorly nourished condition of these children. The result of his investigations shows that the voluminous stools are due to deranged intestinal digestion, a matter which has received little attention in the pathology of the intestinal tract in children. He hopes in later investigations to show the causes of this disturbance.

Growth and Nutrition of Children with Congenital Heart Defect.—After making a survey of sixty-two cases of congenital heart defect in children in the Universitäts-Kinderklinik, Berlin, Weber states that he was unable to discover any characteristic malnutrition or stunting of growth in the children with cardiac anomalies. It was evident, however, that children with congenital cyanosis and especially those with symptoms of congestion in various organs were more subject to deranged nutrition than other children with congenital cardiac disease. Children with dyspnea, especially in combination with cyanosis, likewise showed evidences of malnutrition. Hypotrophy was not found to be a constant accompaniment of congenital heart defects, and he could find no causal relation between the two conditions. Hypotrophy was nearly always associated with various other defects, so that it seemed necessary to look farther back for the destructive agency. However, in some cases no other damaging factor could be discovered other than the congenital heart defect.

Münchener medizinische Wochenschrift, Munich

Feb. 20, 1920, **67**, No. 8

*Intermittent Treatment with Antipyretics. H. Königer.—p. 205.
*Eye Disease Following Influenza. R. Hessberg.—p. 207.
Hospitalism in Foundlings' Homes. W. Kaupe.—p. 210.
*Prolapse of the Umbilical Cord. O. von Franqué.—p. 212.
Demonstration of Uric Acid in Precipitates. M. Weiss.—p. 212.
Filter Alarm; Safety Device in Roentgenotherapy. G. Holzknecht.—p. 213.
Auto-Observation of Recurrent War Hemorrhagic Nephritis. W. Gilow.—p. 213.
Utilization of Surplus Human Milk. F. Klose.—p. 214.
Elastic Fibers of the Cornea. R. Seefelder.—p. 214.
Toxicity of Rangoon Beans. Gabel and Krüger.—p. 214.

Intermittent Treatment with Antipyretics.—Königer says that our conception of antipyresis needs thorough revision. It is not true that antipyretic substances merely reduce the temperature and exert a sedative influence on the patient; in other words, their effect is not merely symptomatic. At least in tuberculosis, Königer claims to have proved, and he thinks it is likely true in other infections, that the reduction of the fever often has a profound effect on the progress of the disease. In the future all therapeutic use of antipyretic substances must take into consideration the after-effects of their administration.

Eye Disease Following Influenza Epidemic.—Hessberg reports, on the basis of special investigations, that a great many diseases of the eye were noted following the influenza epidemic of 1918-1919. Disease of the cornea was especially severe, although the prognosis was favorable. Affections of the uvea had a less favorable outcome, for the reason that the intoxication was evidently more severe. The frequent tendency to increased blood pressure in disease of the anterior eyeball was noticeable, doubtless due in part to a gorged condition of the vessels, and more especially the veins. Pathologic eye conditions were also often associated with meningeal and cerebral processes. Repeated lumbar puncture often gave early relief to jeopardized optic nerves.

Management of Prolapse of the Umbilical Cord.—Von Franqué opposes the view that reposition is the method of choice in dealing with prolapse of the cord, and advocates immediate version and extraction of the child. The mortality in a recent series of twenty-five cases was reduced to 16 per cent. when the latter method was used. The general mortality of the children in cases of prolapse of the cord in Munich from 1909 to 1918 was 62.5 per cent. In the case of a primipara of advanced years with no further prospect of pregnancy, he recommends cesarean section by the transperitoneal method to save the child.

June 18, 1920, **67**, No. 25

Epidemic (Lethargic) Encephalitis. F. Moritz.—p. 711.
*Therapeutic Effects of Pneumoperitoneum. C. Kaestle.—p. 714.
*Roentgen-Ray Treatment of Epilepsy. R. Lenk.—p. 715.
*Idiosyncrasy for Roentgen Rays. O. Strauss.—p. 717.
*Treatment of Plaut-Vincent Angina with Arsphenamin. Hirsch.—p. 718.
*Pathogenesis of Loose Bodies in Joints. H. Rieger.—p. 719.
Peculiar Exanthem in Diabetes in Child. G. Bihlmeyer.—p. 720.
*Infectiousness of Herpes Zoster. A. Bacmeister.—p. 721.
*Stereo-Auscultation. G. A. Roemer.—p. 722.
Technic of Artificial Pneumothorax and Pleural Puncture. A. Pongs.—p. 722.
An Apparatus for Hot-Air Douches. R. Dögler.—p. 723.

Therapeutic Effects of Pneumoperitoneum.—In using pneumoperitoneum for diagnostic purposes, Kaestle was impressed in three different instances with the marked clinical benefit that followed, which, as he is compelled to believe, was produced by the injected air. The favorable effects were noted in a case of suspected carcinoma of the liver or gallbladder, doubtless due to an overfilled gallbladder; in a case of atony of the colon, with enlargement of the liver and symptoms of gallstone colic, and also in one case of enlargement of the liver and gallbladder. In all three cases the air had been left in the abdomen, following the roentgenoscopy. Great caution is required in the selection of the patient and in carrying out the procedure. In view of the fact that the abdomen and not the peritoneum is filled with gas, "pneumoabdomen" appears to Kaestle to be a more accurate designation for the procedure, analogous to "pneumothorax."

Roentgen-Ray Treatment of Epilepsy.—Lenk concludes from his experience with five cases that, although temporary improvement was brought about in some cases, roentgen irradiation of the brain is not advisable in epilepsy. It has no permanent value and seemed at times even to aggravate the condition.

Idiosyncrasy for Roentgen Rays.—Strauss states that, strictly speaking, such a thing as an idiosyncrasy for roentgen rays does not exist. Lessened tolerance occurs only in rare instances, and when it does occur it is usually temporary. He describes five typical cases of roentgen-ray injury in his own experience in the last eight years, and emphasizes the wide range of tolerance in different regions and at different times in the same individual. The fact that at a given time a reaction may take place, and at another time, under apparently the same conditions, a reaction may not occur, makes it impossible for us in medicolegal proceedings to form, by means of subsequent irradiation, a definite judgment whether in a given case malpractice was committed or whether the injury was due to temporary lessened tolerance.

Treatment of Plaut-Vincent Angina with Arsphenamin.—Hirsch found arsphenamin, locally or by the vein, an efficacious remedy in the treatment of this disease.

Fat Embolism Responsible for Loose Bodies in Joints.—Rieger says that males are more subject to this condition than females as they are more exposed from the nature of their work to contusions, which are probably the main cause in the genesis of the fat embolism. The bone necrosis responsible for the loose bodies can take place only in bones whose marrow is so rich in fat cells that the vessels are in direct contact with the walls of the fat cells. The fat embolism can occur only at the joint end of the bone, since only here are the marrow arteries terminal arteries.

Infectiousness of Herpes Zoster.—Bacmeister reports two cases of this disease that occurred within two or three days after exposure through shaking hands with the same patient who had been released from a hospital during the height of the eruption. Evidently a specific virus was involved in this case.

Stereo-Auscultation.—Auscultation by means of two phonendoscopes Roemer finds very helpful in diagnosis. Both lungs or two parts of the same lung can be tested at the same time, which furnishes a differential auscultation. In examining the heart one phonendoscope may be placed over the apex and the other over the valves, by which pathologic changes are brought out more plainly. One tube of each phonendoscope is placed in the ear, and the other tube must be closed air-tight with the finger.

Wiener klinische Wochenschrift, Vienna

May 13, 1920, **33**, No. 20

*Indications for Prostatectomy. V. Blum.—p. 419.
Agglutination in Experimental Typhus. Weil and Felix.—p. 423.
Efficacy of Vaccination against Typhus. A. Galambos.—p. 424.
Pathologic Conditions in Skin of Animals. B. Lipschütz.—p. 426.
Pensions for War Disability. K. Meixner.—p. 428.
Practical Clinical Teaching. F. Hamburger.—p. 429.

Indications For and Against Prostatectomy.—Blum says that the indications for radical surgical treatment of hypertrophy of the prostate are derivable first from recognition of the fact that all other methods of treatment would be more dangerous and would not block the natural progress of the disease process nor stop cancerous degeneration of the hypertrophied gland. Ordinary treatment by catheter has a mortality of 8 to 10 per cent.; castration and vasectomy, a mortality of 27 per cent., and cystotomy, 33 per cent. As for roentgen and radium treatment, they have not as yet attained any permanent results. Prostatectomy, on the other hand, has a mortality of only 5 to 8 per cent., and from 92 to 95 per cent. of recoveries, a higher percentage than by any other method. Complete or partial retention of urine or severe subjective symptoms that seriously impair the general health of the patient are sufficient indications for prostatectomy. Contraindications are: general marasmus, especially the severe forms of urinary cachexia, and severe permanent disturbances of heart function; uremic and diabetic coma; cerebral and spinal paralysis; grave diseases of the internal organs, such as tuberculosis and carcinoma, and severe bilateral kidney disease with considerable uremia, also perivesical and periprostatic suppurations.

Zeitschrift für Tuberkulose, Berlin

June, 1920, **32**, No. 3

Pulmonary Tuberculosis in Wartime. O. Kieffer.—p. 129. Conc'n.
*Children of Tuberculous Parents. J. W. Langendörfer.—p. 150.
Diagnosis of Spontaneous Pneumothorax. F. Mock.—p. 160.
Spontaneous Pneumothorax from Rupture into Artificial Pneumothorax. H. Maendl.—p. 162.
Sanatorium Treatment. G. Liebe.—p. 165. Reply. F. Köhler.—p. 167.

Children in Tuberculous Families.—Langendörfer has been investigating the fate of 269 children in 50 families at Bonn in which one or both parents were tuberculous. Over 54 per cent. of the children have succumbed to tuberculosis; the danger from the tuberculous mother is much greater than from the father. The later born children are more endangered than the others, and from 1 to 5 and just before and after puberty are the most dangerous years.

Zentralblatt für Chirurgie, Leipzig

May 15, 1920, **47**, No. 20

False Aneurysm of Mammary Artery. V. Wieting.—p. 466.
*Exclusion of the Pylorus. W. Kotzenberg.—p. 468.
Are Recurrences More Frequent After Postoperative Roentgen Irradiation of Cancer of Breast? Tichy.—p. 470; Idem. Kohler.—p. 472.

Simple Method of Exclusion of the Pylorus.—Kotzenberg states that in spite of a gastro-enterostomy, food often continues to pass through the pylorus, which thus prevents the healing of the pyloric or duodenal ulcer. For this reason exclusion of the pylorus has been combined with gastro-enterostomy. Suturing or ligation of the pylorus with heterogenous or autoplastic material has not insured a lasting closure. Therefore the operation of choice has been of late Eiselsberg's radical transection of the pylorus, which is done in much the same manner as stomach resection. In view of the not inconsiderable danger associated with the Eiselsberg operation, Kotzenberg has devised a simpler but no less radical method which he has tried in six cases and feels that he can recommend for its effectiveness and its harmlessness. The method is described with an illustration. Clamps are applied each side of the pylorus, about 8 cm. apart. The anterior stomach wall is then incised across between them. The mucosa of the posterior wall opposite, and the mucosa alone, is slit, and a small cylinder is cut out of the mucosa on each side of the main incision. Then the proximal and the distal stumps of the mucosa are each drawn up with a tobacco-bag suture. The stump of the proximal mucosa is pushed down, and the lip of the incision in the anterior stomach wall is sutured to the musculature of the posterior stomach wall. Then the stump of the peripheral mucosa is buried in the same way by suturing over it the peripheral lip of the incision to the musculature of the posterior stomach wall. The serosa is then sutured together over the whole. He adds that the posterior wall of the stomach thus is left unmolested, and the stomach is left in its natural position, while the closure of the pylorus is absolute.

Zentralblatt für Gynäkologie, Leipzig

June 5, 1920, **44**, No. 23

*Injections of Woman's Own Milk to Stimulate Secretion. F. Lönne.—p. 593; Idem. C. Meyer.—p. 597.
Treatment of Grave Asphyxia Neonatorum. Thies.—p. 607.
Collargol by Vein for Gonorrhea in the Female. K. Romeick.—p. 611.
Etiology of Postoperative Parotitis. W. Schulze.—p. 613.

Injections of Patient's Own Milk to Stimulate Secretion.—Meyer reports the results of the injection of the woman's own milk in twenty women after childbirth. In two cases no effect was noted; in six cases the effect was weakly positive; twice it was impossible to decide whether the increased milk flow was due to the injections or to other causes, but in sixteen cases, or 61.5 per cent., in from twelve to thirty-six hours after the subcutaneous injection of from 1.5 to 3 c.c. of the woman's milk a distinct increase of the milk secretion was noted, but as a rule the increase lasted only a few days, when the flow fell off again. The effect in most cases followed so soon after the injection that doubts as to the causal connection seem unwarranted. Sometimes the patients were not informed as to the nature of the injections, and in many cases the increased amount of milk following the injection was more than double that of the preceding day. Lönne reports two cases among others in which the injections several weeks after childbirth seemed to afford the needed stimulus for the deficient secretion, the women thereafter having abundance of milk.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

June 12, 1920, **1**, No. 24

Pain and Temperature with Spinal Cord Disease. Klessens.—p. 2118.
Köhler's Bone Disease. Freia Coenen and H. J. J. Blauwkuip.—p. 2131.
*The So-Called Vagus Neuroses. H. Bolten.—p. 2138.

The So-Called Vagus Neuroses or Vagotonia.—Bolten seeks to demolish the theory of hypertonia of the vagus as the explanation of what have been labeled vagus neuroses. He declares that congenital hypotonia of the sympathetic is the real cause of the disturbances. The congenital neuropathic constitution and the neuroses are due to a substandard vegetative nervous system, and this inferiority is most pronounced in the sympathetic portion of this system. With these neuroses (gout, asthma, epilepsy, migraine, urticaria, mucous colitis, intermittent hydrops of joints) there is a constitutional disturbance of the fermentative purin metabolism from hypotonia of the sympathetic. Instead of excessive functioning of the vagus, the trouble is merely inadequate functioning of the sympathetic system.

Hygiea, Stockholm

July 16, 1920, **82**, No. 13

Mistaken Sex. H. Berg.—p. 417.
Injury of the Ureter with Pelvic Operations. W. Forssell.—p. 431.